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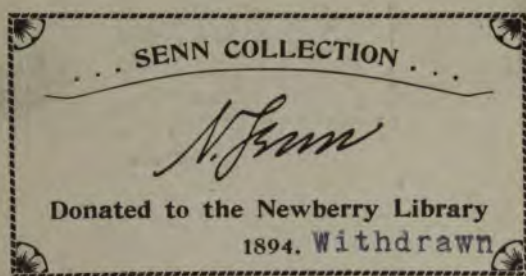
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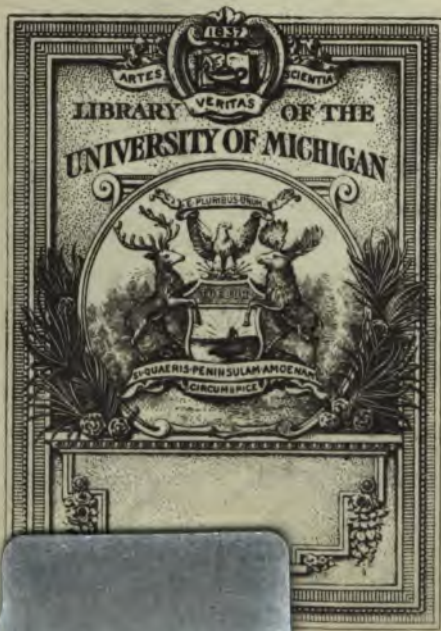
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HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES.
JANUARY—JUNE,
1860.

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THE
HALF-YEARLY ABSTRACT
OF THE
MEDICAL SCIENCES:

BRING
A PRACTICAL AND ANALYTICAL DIGEST OF THE CONTENTS OF THE PRINCIPAL
BRITISH AND CONTINENTAL MEDICAL WORKS PUBLISHED
IN THE PRECEDING SIX MONTHS:

TOGETHER WITH A
SERIES OF CRITICAL REPORTS ON THE PROGRESS OF MEDICINE AND
THE COLLATERAL SCIENCES DURING THE SAME PERIOD.

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SCHOOL OF MEDICINE.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

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BRITISH.

Annals of Anatomy and Physiology.
Association Medical Journal.
British and Foreign Medico-Chirurgical Review.
Dublin Quarterly Journal of the Medical Sciences.
Dublin Medical Press.
Dublin Hospital Gazette.
Edinburgh Medical Journal.
Edinburgh New Philosophical Journal.
Glasgow Medical Journal.
Indian Annals of Medical Science.
Journal of Psychological Medicine.
Lancet.
Liverpool Medico-Chirurgical Journal.
London Medical Examiner.
Medical Circular.
Medical Times and Gazette.
Microscopical Journal.
Pharmaceutical Journal.
Statistical Journal.

AMERICAN.

American Journal of the Medical Sciences.
American Monthly Journal.
Canada Medical Journal.
Charleston Medical Journal and Review.
Montreal Monthly Journal.
New York Journal of Medicine.
North American Medico-Chirurgical Review.
North-Western Medical Journal.
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FRENCH.

Annales de Chimie et de Physique.
" *d'Hygiène Publique.*
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Archives Générales de Médecine.
Bulletin de l'Académie de Médecine.
Comptes Rendus.
Gazette des Hôpitaux.
Gazette Hebdomadaire de Médecine et de Chirurgie.
Gazette Médicale de Paris.
Journal de Pharmacie et de Chimie.
L'Union Médicale.

GERMAN.

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Archiv für Physiolog. und Patholog. Chemie und Microskopie.
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Deutsche Klinik.
Monatsbericht der Akademie zu Berlin.
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HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

&c. &c.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, & THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

(A) HYGIENE.

ART. 1.—*Mortality of London in 1850 and 1660-79.*

By Dr. ARTHUR FARRE.

(*Report of Registrar-General, 1859.*)

The following interesting particulars are from the Registrar-General's summary of the weekly tables of births and deaths in London for 1859 :

In the twenty years 1660-79 the mortality in Southwark and in the city within and without the walls was at the rate of 7 or 8 per cent ; so the mortality within the Bills may be set down at the rate of 7000 annually in every 100,000 living, of which 3400 were by zymotic diseases. The diseases were not always distinguished accurately. But by putting them in groups any fallacy from this source will be obviated, and the decrease of some of the worst forms of mortal disease will be placed beyond doubt. To render the comparison easy, the number living is taken to be the same in the two periods—100,000 in 1660-79 and in 1859. The annual deaths by smallpox were 357 in the first period, 42 in the second period ; by measles 40 and 47 in the two periods. Medical science was imperfect, and the science existing in that century was very imperfectly applied. Croup and scarlatina were not generally recognised, but were confounded with measles and fever. The mortality by fever, continued or remittent,

and ague was at the rate of 7.49 and 5.9 in the two periods; or, including scarlatina, quinsy, and croup, the mortality was 75.9 and 22.7. Thus a person was in four times as much danger of dying of these diseases at the Restoration as a person living in London now. Women are not yet entirely exempt from peril in childbearing; the mortality by that cause is now 1.7, it was then 8.6. Again, a few (8) in 100,000 die now of dysentery; then, out of the same number, 763 died annually of that disease. By diarrhoea, a milder form of disease, 11 died then, 120 die now; cholera was fatal in 1859 to 7, and in the 20 years 1660-79 to 130 annually. Syphilis was twice as fatal as it is, the numbers being 21 and 12. Scurvy and purpura bear testimony to the imperfect nutrition of the population; the annual deaths were then 142, are now 2. Vegetables, fruit, and fresh meat could with difficulty be procured in winter. Worms and all parasitic creatures that crawl over, bite, and prey on the body of man were prevalent; 10 deaths were ascribed to worms. Dropsy, a result and sign of scurvy and fever, was exceedingly fatal; 293 died of that disease then, and 26 now. Apoplexy, paralysis, epilepsy, affections of the brain, and suicide are more fatal now, according to the returns, than they were, in the proportion of 5.7 then to 15.1 now. Consumption and diseases of the breathing organs were uncommonly fatal; 1079 then, and 611 now are the figures of the mortality. Diseases of the digestive organs were fatal then and now in the proportion of 14.6 and 9.5. Stone and diseases of the urinary organs are now as fatal as they were then; the deaths being 21 and 30. Children were rapidly cut down; of convulsions and teething 1175 died then, 136—too many—now. Of the violent deaths some are now more frequent, as the forces by which they are occasioned are greater; of fractures and wounds 19 died then, 25 now; of poison, more accessible, 2 now, and then only 1; of burns, as fires are probably more common and dresses more inflammable, now 13, then 3; drowning and suffocation were then twice as fatal (23 and 20) as they are (10 and 10) in the present day. Five in 100,000 of the people were executed then annually; now 1 in the whole population. In addition, the inhabitants of London were then destroyed by the terrible plague; which upon an average of the 20 years, carried off 1132 lives. In 1665 nearly a third of the population perished by plague. It is difficult to conceive this frightful destruction of human life; the imagination, the wailing notes of writers, the details of Defoe in a work which would have immortalised any writer, fail to bring all the horrors before our minds. The mortality was at the rate of 7 per cent. on an average during the 20 years. If the mortality of London had been at the same rate in the last year, instead of 61,617 about 194,204 deaths would have been registered. The plague was the more appalling as the mortality overwhelmed the people in particular years; thus the burials from 15,356 in 1663 rose to 97,306, "whereof 68,596 were by plague," in 1665; and this was equivalent to more than 600,000 deaths by plague in the present population of London. In the third week of September 8297 deaths were registered, which represents a rate of mortality equivalent to about 85,000 deaths in a week on the actual population of London.

ART. 2.—On the evils of Intra-mural Burials. By Dr. LETHBY.

(Sanitary Report of the City of London, January, 1860.)

A strong argument for extra-mural burials may be found in the following remarks of Dr. Letheby upon the state of the church vaults and burial-grounds in the city of London.

"All the city churches, seventy-one in number, have been carefully examined, and whenever it has been practicable we have made a personal inspection of the public vaults. The general result of our inquiries may be expressed in a few words—that every available space beneath the floorings of churches has been used for ages as a repository for the dead, and it passes belief how large a quantity of putrefying matter has in this way been disposed of. Even now the vaults are in some cases gorged with corruption, and all along the aisles and porches of the sacred edifice are graves filled with human remains. In most instances the only partition between the living and the dead is a thin slab of stone and a few inches of earth. These offer but a very imperfect barrier to the escape of noxious effluvia; and slowly, therefore, but incessantly, the gaseous products of decomposition are effused into the atmosphere of the church. But at the night services, or during the winter season, when the air is rarified by the warmth of the fires or burning gas, the rank vapours are drawn out in uncontrolled profusion. It is impossible to say what mischief has been done by this, and how many, while worshipping within the sanctuary, have breathed the atmosphere of corruption, and have sickened unto death.

"As far as the investigations have gone, we have found about 250 vaults in the city churches, half of which are public, and although it is not possible to obtain accurate information of the number of coffins within them, there is reason to believe that the number is not far short of 11,000; besides which, there are hundreds of bodies in the graves of the aisles and porches. In most cases the vaults are entered from the general area of the church, the openings being covered by wooden flaps or by stone flags. The coffins are generally of lead, with an outer covering of wood, and they are often piled up in tiers to the very crown of the vault. When the wood decays the weight of the upper mass crushes the lead and lets out a filthy liquid of a most disgusting odour. But, besides this process of destruction, the lead itself is attacked by the foul gases, and is pierced with numerous holes, as if it were worm-eaten. It then swells up into a spongy mass of porous carbonate, which offers but slight resistance to the passage of the putrid vapours; and thus, little by little, the animal part of the body escapes, and finds its destination. It is a huge fallacy to suppose that a coffin of lead preserves a corpse indefinitely. The law of nature is, that organic matter shall not be idle; it must ever circulate and be in motion. This no earthly power can stay. We may strive to keep the cherished dead by binding them in cerements, by closing them up in wood and stone and lead, and building them into vaults and pyramids; but all is fruitless, for 'dust unto dust' is the fiat, and the law is inflexible. How vain,

therefore, and how mischievous is the effort to preserve the dead among the living. In most of the vaults we have visited the coffins have been in every stage of rottenness, and the atmosphere sickening in the extreme; so much so, that on many occasions we have been obliged to discontinue the inspections for a time. The air charged with these effluvia must escape; and it either diffuses into the atmosphere of the church, or passes by the ventilating openings into the public way. The inspectors inform me that there are no less than 120 of these openings in the city, many of which are but a few feet from the windows of inhabited houses."

ART. 3.—On the Disinfecting powers of Heat.
By a Committee of the York Medical Society.

(*British Med. Journal*, April 7, 1860.)

The Committee has endeavoured, by means of written inquiries, to obtain the best information on the following points: 1. As to what was already considered to be known and determined in relation to this question; 2. As to the extent to which a belief in the truth of the affirmative proposition had been entertained and acted on; and 3. What had been the practical conclusions arrived at in those cases in which the principle had been admitted into practical application?

The late Dr. Henry, of Manchester, at the solicitation of a merchant of that town, made a series of experiments with the view of devising some certain and effectual method of disinfecting cotton of the contagion of plague, without impairing the tenacity of the fibre, or rendering it in any way unfit for the purposes of manufacture.

That heat might possess disinfectant power, suggested itself to Dr. Henry from reflecting on the observations of Dr. Russell and other writers on the plague, that this disease appears to lose its contagious property during the prevalence of very high degrees of atmospherical temperature. Chemical reasoning also appeared to strengthen the probability that a temperature raised to no great extent would suffice for the decomposition of infectious matter, as being products of organic life, and consequently of a complex nature, and owing their existence to affinities which are nicely balanced and easily disturbed, and ready, under the influence of heat, to have their atomic arrangements modified, and their character and properties disturbed.

Dr. Henry ascertained: first, that cotton, silk, and wool, may be exposed for several hours to any temperature under 212° Fahr., without being in the slightest degree damaged; secondly, that vaccine lymph does not lose its characteristic properties by exposure to a temperature below 120° Fahr., but that it is rendered totally inert by exposure to a temperature of 140° Fahr.; and, thirdly, that four children, between the age of six and thirteen years, who were well ascertained not to have had scarlet fever, wore with impunity jackets worn during the height of the eruption by scarlet fever patients, and afterwards corked up in bottles, and exposed to a dry heat, varying from 200° to 206°, for a period varying from two to four

hours. Dr. Henry likewise tried some experiments on his own person, with the infection of typhus fever, flannel waistcoats being similarly employed with negative results; but on these he did not lay much stress.

These experiments afford the chief ground, and the only scientific basis, of a belief in the disinfecting power of heat; and they derive great weight from the well-known scientific accuracy of Dr. Henry as an observer and experimenter, and the philosophic caution by which he was distinguished.

After seeking and obtaining information from various sources, the Committee arrived at the following inferences and conclusions.

1. The experiments of Dr. Henry, although insufficient for the purpose of scientific demonstration, afford strong presumptive evidence that heat, near the boiling temperature, does possess the property of destroying infection claimed for it by the discoverer.

2. Although no carefully conducted experiments on this subject appear to have been instituted since those of Dr. Henry, yet, so far as the inquiry has extended, wherever the principle has been acted on, the result has been satisfactory. The argument being in its nature cumulative, this theme gained additional force, since first propounded, though, from lack of observation, it has not made that progress which the friends of science and humanity might hope for.

3. Nothing has been added to the literature of the subject since the very able original papers were published: and the professional mind has shown too great indifference, and has not realised the great sanitary importance of the discovery.

4. The credit of the profession is involved, and it is incumbent on its members, who alone possess the means and opportunities of accumulating evidence, not to allow this question to continue in its present unsatisfactory condition, but to take measures for its practical solution.

5. The required proof and public confidence in its sufficiency, can only be attained by a widely extended trial of the power of heat as a disinfectant, under the recommendation and observation of the members of the medical profession.

6. It would tend greatly to ensure the accomplishment of this object, if the Epidemiological Society could be induced to take up the inquiry, and recommend it to the consideration of its members. It would be for this—the York Medical—Society to consider whether it might not be desirable to report their proceedings to the President of that Society.

7. Measures should be taken to induce the members of the profession generally to give their attention to the subject, in order to ensure a numerous and widely extended series of observations, conducted under the supervision of medical men, which may be made available as evidence.

8. As nothing would be so likely to facilitate every other measure which it might be considered desirable to adopt for the furtherance of this inquiry as the being able to recommend to the profession and the public some simple and inexpensive apparatus, it would therefore be desirable, as a first step, to appoint a Committee to consider the best

construction of an apparatus for conducting the process of disinfection by heat.

ART. 4.—*On poisoning by Sausages.*

By Dr. TRIPE, Medical Officer of Health for the Hackney District.

(*Med. Chir. Rev.*, Jan., 1860.)

The sausages referred to in this paper were made of lean beef, pork-fat, bread, sage, and condiments. Sixty-six persons partook of them; sixty-four of this number were attacked at periods varying from three and a half to thirty-six hours subsequently with symptoms resembling those of narcotico-irritant poisoning; and one man died on the seventh day afterwards. Diarrhœa was not prevalent in the district at the time, and the vomiting and purging only occurred in those who had eaten of the sausages.

"The earliest symptom," says Dr. Tripe, "was a sensation of burning in the throat and at the epigastrium, followed, usually in a few minutes, but in some delayed for hours, by the vomiting and purging. The next symptom was a feeling of extreme prostration; then giddiness, or noises, or confusion in the head, and in some delirium. In the man Eaton the cerebral symptoms were extremely marked; the delirium was like that of delirium tremens, and very decided; the eyes were very red; and he was semi-comatose, but could be roused so as to answer questions correctly, or to take his medicine. There was, however, one peculiarity about his case—namely, that all the urgent symptoms, which were so severe on the Saturday and part of the Sunday, had a most marked remission for about forty-eight hours, when the cerebral symptoms and prostration returned with greater severity than ever, and continued up to his death.

"The very unusual flow of bile, with the extreme and irregular congestion of the small intestines, were very characteristic marks of the action of some intestinal irritant. The absence of congestion or ulceration of the stomach, and of ulceration of the intestines, proved that the irritant was not of a mineral kind; whilst the failure to discover by the microscope anything except the *débris* of food, showed that no savin or other vegetable irritant had been inadvertently used.

"The results of the chemical analysis quite corresponded with the symptoms during life, and the post-mortem appearances after death; the only difficulty in the case arising from the time which elapsed between the sausage being cooked and the analysis being made. The sausage was cooked on Nov. 4th, 1859, and was not analysed until about a fortnight afterwards; when, although it had not any unusual smell, yet a rather large quantity of a peculiar stinking animal extractive was obtained by alcohol. Dr. Letherby could not therefore state whether this animal extractive existed in the sausage before it was cooked, or was formed afterwards. Taking, however, the symptoms during life, both of the man Eaton and of the other sufferers, with the post-mortem appearances after death, there can, I think, be but little doubt that the animal extractive had been formed before the sausages were cooked. The partial improvement in the man,

Eaton, and the violence with which the symptoms returned (especially those indicative of cerebral disorder), may have risen from a new development of poison about four days after the sausages were eaten.

"The next question which arises is as to the meat which caused the illness. Was it the pork fat, or the beef? If the beef, it must have been in consequence of previous illness of the beast, as there was not time for any putrefactive action to have occurred before it was used. This cannot be shown with certainty, for although there is great suspicion of the animal having had some illness, and having been killed in consequence, yet there is an absence of proof. Whilst, on the other hand, it is far more likely to have been the pork fat, as the pigs were killed on the 26th of October, and were not used until the 3d or 4th of November, having been packed up for three days, and become 'muddled'—i.e., heated so as to become covered with moisture inside. Dr. Taylor observes, 'the poisonous effect is supposed to depend on a *partial* decomposition of the fatty parts of the sausages.'"

Art. 5.—On Fowls fed on Putrid Meat. By Dr. DUCHESNE.

(*Edinburgh Medical Journal*, April, 1860.)

Dr. Duchesne, in the '*Annales d'Hygiene Publique*,' observes:—"It is well known that man cannot indulge in putrid meat with impunity, and numerous cases are on record where accidents have occurred from this kind of food. Little is known, however, of the effects produced by the flesh of animals otherwise in good health, but nourished with flesh in a state of putrefaction. Certain animals can undoubtedly be nourished on such putrid matters; but it is important, in a hygienic point of view, to determine the modifications which the exclusive use of putrid viands may produce in the quality and the preservability of fowls destined for the market.

"On the occasion of a complaint against a farmer in the neighbourhood of Paris, Dr. Duchesne visited his establishment, on a warm day in July, and towards the afternoon. The food of the poultry he found to consist of flesh in a state of putrid decomposition, which had been obtained from the slaughter-houses of Paris. The fat is first removed by cooking, and bran is added; and this mixture is given morning and evening to the fowls, who fight for it with avidity. A very foetid odour came from the barrels in which the food was contained, from the vessels where it was supplied to the fowls, and also from the ground round about them. The fowls, however, appeared to be in perfect health. Dr. Duchesne supplied himself with three eggs laid that day, and also with a fowl and duck of a year old, which were killed before him. In three hours' time the poultry gave out a very strong odour, and the intestines were so offensive that they had to be removed to a distance. Decomposition rapidly set in. The fowl, at the end of twenty hours after being cooked, had an unpleasant strong taste, and the duck at the end of twenty-four hours was in such a state that it could not be eaten. Next day, when the flesh was cold, and the smell abated, portions of the duck were partaken of by the servants. The eggs, too, were found, if kept a reasonable time, to

become very unpalatable. In fine, it was shown that though fowls nourished in this way were apparently healthy, and could be eaten at a pinch without great inconvenience, yet that it was most probable that the continued use of such articles of diet would be attended with danger. The Council of Health at once interdicted the sale of fowls fed in this objectionable manner. Dr. Duchesne continued his inquiries at the great Knackery of Aubervilliers, where pigs and fowls are fed in great numbers on flesh raw and cooked, and where similar animals are reared on a mixed food, consisting of flesh and grain. The results of his observations are embodied in the following conclusions:—Fowls and pigs may be fed on sound flesh, raw and cooked; on flesh, raw and cooked, of animals affected with contagious diseases, as glanders, malignant pustule, hydrophobia, &c., and even on flesh, raw or cooked, in a very advanced state of putrefaction, without any alteration on their health. Chickens are reared with difficulty, if their food be restricted to flesh raw or cooked, even when sound; and a larger number of them perish than when fed on ordinary kinds of food. The eggs of fowls thus nourished are as palatable as the eggs of fowls nourished in the common way. The shell, however, is thinner, and more easily broken. The flesh of fowls and pigs nourished on flesh raw or cooked, is softer, more difficult to preserve, and the fat is yellow and more diffuent. Dr. Duchesne has still doubts as to the absolute wholesomeness of fowls and pigs fed on animals dying of glanders, &c., and recommends that the use of the flesh of such animals should be prohibited for the rearing of fowls and pigs. The use of flesh in a state of putrefaction, for similar purposes, should be absolutely prohibited as unwholesome. Fowls should not be fed too long or too abundantly on worms, caterpillars, beetles, &c., as such food communicates a strong taste to the flesh. The continued use of flesh, otherwise healthy, and either raw or cooked, ultimately injures the growth of the fowls and the quality of their flesh. The best method of rearing undoubtedly is, to give flesh but once a day, and to finish with a meal of grain. For market use, the use of flesh should be stopped, and the fowls restricted for some time to the use of a vegetable diet."

ART. II.—*Observations on Revaccination.*

By MM. VIERMICKX and MARINUS.

(*Bull. de l'Acad. de Méd. de Belgique*, ser. II, tom. 2, 1839; *Med. Times and Gazette*, Feb. 6, 1860.)

M. Viermickx detailed to the Belgian Academy of Medicine the results of the revaccinations which had been put into force at the prisons of Ghent and Vilvorde, the subjects together amounting to 1000. Of these, 379, or 37.9 per cent., were vaccinated with success. Of the 1000 there were in 716 manifest traces of a prior vaccination, and 471 exhibited marks of smallpox. Of the 716, 115, or 16 per cent., and of the 471, 220, or 46 per cent., were vaccinated with success. The author's conclusions, from these and other cases, which

he has brought before the Academy on former occasions, are as follows:—1. Revaccination of subjects who have been well vaccinated, produces generally but very few useful effects. 2. Persons who have been the subjects of variola have much more cause to be revaccinated than those who have undergone proper vaccination. 3. Revaccination is successful in proportion to the length of time which has elapsed since the first vaccination or the attack of variola. 4. Until the age of twenty-five it is generally useless. 5. From that age to thirty-five it gives rise to useful results in a certain number of individuals, but this number is so extremely small, that without prescribing it in such persons, it need not be warmly recommended to them. 6. After thirty-five it becomes a sure preservative, and consequently necessary. 7. Its failure at one period furnishes no reason for not having recourse to it at other epochs, as there is no reason to suppose that the receptivity may not return between the one and the other operation. 8. Revaccination of pupils in schools and colleges is useless, as is also the case with revaccination of soldiers in armies constituted as the Belgian.

M. Armieux also submitted to the Academy an account of the revaccinations he had performed in the 25th regiment of the French line, stationed at Rome. The revaccinations amounted to 2021, of which number one third succeeded. He found that when the virus was taken direct from the arm of healthy infants more than one half the cases succeeded, while when it was taken from the arm of the adult, less than one fourth of the cases succeeded. He feels convinced that the virus becomes enfeebled in energy in the adult, and is unsuited for the certain propagation of vaccination. He has also found that virus preserved under glass, or in glass tubes, to be of very uncertain efficacy, and sometimes quite inert. Contrary to most observers, he states that no age is refractory to revaccination, which succeeds equally well in youth as in riper age,—his experience, however, with regard to the young, being derived from a regiment, is necessarily very limited. Of the whole 2021 revaccinations, success was complete in 670, doubtful in 86, and wanting in 1254. With regard to prior vaccination, 1478 soldiers had been vaccinated in childhood, or for more than ten years, and had not suffered from variola. In these the revaccination succeeded in 505 (34 per cent.), was doubtful in 62, and failed in 911. In 145 instances the subjects had not been vaccinated but had had variola, and in these revaccination was successful in 58, doubtful in 4, and failed in 83. For six months after this revaccination, a considerable epidemic of variola prevailed in Rome, but throughout the regiment of more than 2000 men, only 8 cases of very benign variola, or varioloid, occurred. These 8 individuals had been successfully vaccinated in childhood; but, with the exception of one, they had either not been revaccinated or had been so without success.

M. Marinus observes that the conclusions M. Vleminckx arrives at in the paper we have referred to are quite opposed to all former experience of vaccinators; and without doubting the accuracy of the statements made, he thinks that until farther investigations can be entered into they must be received as quite exceptional. It may be

even worthy of consideration whether the prison-life of the subjects forming the material of M. Vlemineckx's experiments, had not favoured receptivity at a more advanced age. In the mean time, awaiting the period when the question is to be brought before the Academy for full discussion, M. Marinus passes in review the various statistical proofs of the decay of the protective power of vaccination, and of the efficacy of revaccination. The conclusions he comes to from a great mass of figures are:—1. That the preservative power of vaccination is of a true efficacy during the first ten years, and then goes on diminishing to the twenty-fifth or thirtieth year. 2. That the same law applies with respect to the preservation from variola by a first attack of this; and 3. That the receptivity for a second vaccination is never greater than between the tenth and thirty-fifth year after the first, this being the period when revaccination has best succeeded, both in those who have been previously vaccinated, and in those who have had variola. This is, then, the period during which its performance is essential; and after this epoch of life has been passed, although revaccination may still prove useful, it need not be too warmly recommended.

ART. 7.—A new Head-dress for soldiers in India.

By Dr. JULIUS JEFFREYS.

(*British Med. Journal*, May 17, 1860.)

A series of lectures, on the clothing, tents, and housing¹ of the British troops in India and in other tropical countries, has lately been delivered at the United Service Institution, by Dr. Julius Jeffreys, formerly staff-surgeon at Cawnpore. He introduced the subject by remarking that upon the sanitary efficiency of the arrangements made for our army its military efficiency in no small degree depended. In the warfare consequent upon the late Indian mutinies, the number of men killed by the assaults of the enemy had scarcely exceeded a tenth of those who were lost by the climate or by sickness. Besides those who died of sun-stroke and apoplexy on the march, or when they lay down at night, the constitutions of many were utterly destroyed by the exhaustion of the skin rendering them incapable of resisting malaria, or of recovering from slight wounds. If we had not providentially had the Sikhs to take much of the duties which required exposure in the heat of the day, our small army would either have been exterminated by disease, or so reduced in strength as to be insufficient for its task. It was a mistake, however, to suppose that this destruction of British life and health was an inevitable accompaniment of our retaining a great tropical dependency like India; and, with the help of science, it would be possible to provide such protection for British troops as would enable them to keep the field at all seasons. Dr. Jeffreys exhibited and explained a peculiar helmet, which he had invented. He does not rely upon the principle of employing a material which is a slow conductor of heat; nor does he attach great value to the mere thickness of substance, having observed that a roof of thatch or of solid masonry, one

or two feet thick, proves insufficient, without great interior loftiness, to save the inmates from being distressed by the solar heat. The helmet which he has contrived is one which admits of a double current of air entering through holes around the brim, and escaping through holes in a metal coronet at the top, a considerable space being kept between the sides of the hat and the head. There is a cap of horse-hair open work on the top of the head, and the hat is attached to this cap by pins and bands, in such a manner as not to hang loosely upon the head, whilst yet it does not press the brow. The top of the helmet, to receive the vertical rays of the sun, is coated with aluminium, or some other bright metal, as are likewise the interior surfaces, to prevent the downward radiation of heat. There is an apparatus for tightening the cap when necessary, by simply turning a thumb-screw; and in the front, a pair of eyeguards may be lowered in a moment, to keep off the glare of the sun.

ART. 8.—*On the dress best suited for India.*

By Mr. W. J. STUART, Surgeon to the 25th Regiment, N.L.I.

(*Trans. of Med. and Phys. Soc. of Bombay*, No. 5, new series, 1859.)

In his annual report of the regiment to which he is attached as surgeon, among other points well deserving of attention, Mr. Stuart objects to the present system of dressing men in thin, light, loose clothing.

"The regiment," he says, "which suffered most from the exhaustive effects of the sun was H. M.'s 71st Regiment, clothed in the new khakee. H. M.'s 86th Regiment, clothed in the loose but cloth tunics, suffered, comparatively speaking, very little indeed; certainly the former regiment had recently arrived in the country, the latter was acclimatized, but I do not think this accounted for the wide difference in the amount of suffering.

"The natives of this country wear loose but wadded garments; and when using much exertion in the sun, invariably wind several folds of cloth around their waist and stomach. The experience of every sportsman in India will corroborate the advantage to be derived from it, in enabling the wearer to sustain the exhaustive effects of great fatigue, with very little or no nourishment, combined with exposure to the sun. I believe the sun exercises as injurious an effect on the organic or sympathetic system, through the medium of the spinal column indirectly, and of the solar plexus directly, and through the medium of the sympathetic nerves on the systemic circulation, on the action of the heart, and the oxygenating function of the lungs, as the sun does upon the brain; in fact, I think more so, and native experience proves it; for, while the native will constantly leave his bare scalp exposed, he invariably wears the kummerbund. While, therefore, attention is paid to the head-dress,—and this should be a leather helmet with funnel-like entrance above, with a white cover and puggree, instead of one of light basket-work recently introduced, most uncomfortable to the wearer, and liable to be broken,—more attention should be paid to protecting the spinal

column, and the great centres of the organic system of nerves, by using a light, loose coat, well wadded, or made of a light woollen material."

ART. 9.—Effect of Labour on the Health of Prisoners in India.

By Mr. JOSEPH EWART, of the Bengal Medical Service.

(*The Indian Lancet*, January 1, 1860.)

In a report on the sanitary condition of Indian jails, Mr. Ewart shows very clearly that the air the prisoner breathes, the water he drinks, and the food he consumes, are all so unwholesome as, with a few exceptions, to render ill-health and high mortality sure consequences of imprisonment, particularly if the prisoner be condemned to hard labour out of doors.

The high mortality among different classes of prisoners in Lower Bengal for two years is thus tabulated and commented upon.

CLASSES.	Average strength.	Deaths.	Ratio per 1000 of deaths to strength.
Working on the Roads . .	6,817·10	1086	159·30
Engaged in Manufactures .	12,400·64	1200	96·76
Otherwise employed . . .	7,196·28	589	81·84
Total	26,414·02	2875	108·84

"Thus, in 1000 able-bodied prisoners sent to work on the roads, no less than 159·30 died annually. This is a frightful rate of mortality. It is, in truth, equivalent to a sentence of capital punishment upon the entire class—a class too, be it recollected, not convicted of *heinous* but of *minor* transgressions of the law, in about every six years and four months. When the general average is so remarkably high, the extremes must be terribly appalling. Indeed, in some gangs, notwithstanding the benevolent bestowal of subordinate medical agency, which has been usually supplied to each gang numbering fifty prisoners, for many years past, the lives of the individuals composing them could not have been worth eighteen months' or two years' purchase at the outside.

"The mortality among the prisoners working on the roads was 62·54 per 1000 in excess of that which held good among those engaged in manufactures, within the precincts of the jails; and 77·46 per 1000 higher than that which obtained among the 'otherwise employed,' or those who have been chiefly told off to perform the menial duties of the prisons. Thus, if the labour on the public roads were abolished, and in-door labour substituted for it, and provided all other circumstances remained the same as heretofore, the saving of lives of those who have been convicted of trivial offences against the laws of

the land would be, out of 3408 souls, 213 annually; and if their occupation at in-door labour could be so improved as to make the mortality descend to that which prevails among those engaged in the execution of menial duties, the saving of lives would be 264 annually."

Foremost among the causes of the great mortality among the labouring prisoners, Mr. Ewart mentions the defective dietaries which have been and are still used in Indian jails.

"With a view to place beyond doubt the injurious effects which the Bengal prison dietaries must have exercised, and are now exercising upon the constitutions of this large class of criminals, the following brief statement will show at a glance the computed nutritive value of the old Bengal dietary, the new Bengal dietary, and the proposed Bengal dietary.

For Labouring Prisoners.

DIETARIES.	Carboniferous nutriment in ounces.	Nitrogenous nutriment in ounces.	Total real nutriment in ounces.
Old Bengal Dietary . . .	25·876	·4574	30·450
New Bengal Dietary . . .	23·429	1·7568	25·1858
Proposed Bengal Dietary .	17·340	5·7348	23·0748

"If the proposed dietary, the rough materials entering into the composition of which are given in the table, be a near approximation to a correct scale, it follows that the two other scales, noted in the above statement, *must* be defectively constituted in two important particulars. The old Bengal dietary contains an *excess* of 8·536 ozs. of carboniferous, and a *deficiency* of 1·1608 ozs. of nitrogenous nutriment; whilst the new one contains 6·089 ozs. *too much* of the former, and 3·978 ozs. *too little* of the latter principle.

"Now it was found, in an experimental inquiry instituted by the General Board of Directors of Scotch Prisons, and conducted by Professor Christison, of Edinburgh, 'on a scale, and with a care unequalled by any investigation of the kind hitherto made public,' with a view 'to discover the exact quantity of nourishment that was sufficient and not more than sufficient to maintain the *health* and condition of the prisoners in the jails' in Scotland, that 'four ounces of real albuminous nutriment were found to be barely sufficient to support a *man not* subjected to hard labour, and confined only for a period of from ten days to two months. . . . The observations were made on 896 males, and 726 females, in the prisons of Edinburgh, Glasgow, Aberdeen, Stirling, Paisley, Ayr, and Perth. Each prisoner was weighed on admission, and his state of health and strength noted. This was repeated every fortnight; 8000 observations of this kind were made. The prisoners were kept steadily on one dietary, the articles of which were oatmeal, butter-milk, or skimmed milk, bread, meat, barley, peas,

and vegetables.' The conclusions drawn from this great experiment were 'that, for prisoners having no great exercise, food containing four ounces of nitrogenous, *i. e.*, albuminous principle, with enough of carboniferous nutriment, is sufficient for the support of health, weight, and general condition; but less than this is not sufficient, and that this quantity is not adequate for those accustomed to vigorous occupation in the open air; that it is inadequate also for persons exceeding the average bulk, and for growing lads between seventeen and twenty.'*

"If, then, four ounces of nitrogenous nutriment be absolutely necessary to maintain health, weight, and general condition, in those *not* sentenced to hard labour, it stands to reason that there is too little of this essential principle in the old and new Bengal dietaries for labouring prisoners. The former contains only $\frac{5}{74}$ th of an ounce more, the latter 2.2432 ozs. less nitrogenous nutriment than Dr. Christison has proved to be necessary for the support of a prisoner not subjected to labour, and who was confined for the limited period of from ten days to two months; and to make bad worse, they are both characterised by the presence of a superfluous and dangerous excess of carboniferous nutriment. It is clear that a dietetic allowance, which does not afford an adequate quantity of reparative material even for those who are not expected to undergo active exertion, when given to those who are sentenced to hard labour, must operate very prejudicially upon such persons. As the waste of the animal structures, beyond what is normally the result of mere functional action in repose or passive exercise, is in the direct ratio of the amount of physical labour exacted, it follows, inferentially, that the reparative food must be increased in similar proportion to renew the loss of organized tissues. If the equilibrium is not maintained between the demand for the material for structural repair and the supply—and particularly if the latter is deficient in quantity—gradual, insidious starvation must be the inevitable result. The fact is, that with such a scale of food as is represented by the new Bengal dietary, the wonder is not so much that the mortality among labouring prisoners has always, since its introduction, been extraordinarily high, as that it has not been still higher. And it will, to my mind, be an astonishing circumstance, other things being as they are, if it is ever reduced so long as this scale, or a near approximation to it, is permitted to be used in the jails of Lower Bengal.

"But the proposed scale is, I hope, free from these objections. While it does not allow more than enough of the carboniferous, it affords no more than a sufficiency of the nitrogenous principle. I am strongly impressed with the idea that an experimental inquiry, conducted according to the plan adopted by the celebrated Dr. Christison, under the auspices of the General Board of Directors of Scotch Prisons, in any of our large, well managed prisons, would corroborate the views here inculcated, by obtaining two great results—diminished sickness and a lower rate of mortality."

After defective dietary, Mr. Ewart places defective clothing and

* Vide Dr. Davidson, 'Report on the Trichinopoly Jail' for 1856.

hutting as the most important causes of sickness and mortality among prisoners who have to labour out of doors.

"In no country in the world is protection by efficient clothing and good shelter against the violent extremes of temperature, so frequent in India, more absolutely indispensable than in this climate, and this arises chiefly from the abundant generation of malaria, the evil effects of which are always favoured by bad clothing and hutting. Add to these defects non-waterproof tents (or huts), often pitched in ineligible situations, for the accommodation of these unfortunate creatures located at a distance from the jails; overcrowding in these; the absence of more than a mat to intercept the damp striking upwards from spongy soils; the absence of changes of dress, and more particularly of separate bedding, during the rainy season; the employment of prisoners in localities reeking with concentrated miasmatic exhalations, during the unhealthiest periods of the year; the consumption of stagnant or marsh water; the presence of iron fetters; and then the reader will have some conception of the real reasons why that kind of labour which ought, under a humane and reformatory system of prison management, to be the healthiest, has always proved more prejudicial than any other to the health and lives of the Indian convicts."

ART. 10.—*On the Arsenic eaters of Styria.*

By Mr. HEISCH, Lecturer on Chemistry at the Middlesex Hospital, &c.

(*Pharmaceutical Journal*, May 1, 1860.)

Mr. Heisch derives his information mainly from Dr. Arbele, Professor of Anatomy in Salzburg; Dr. Lorenz, Imperial Professor of Natural History, formerly of Salzburg; Dr. Kottowitz, of Newhaus; and from several non-medical friends on the spot; and if human testimony be worth anything, the fact of the existence of arsenic eaters is now placed beyond a doubt.

"Dr. Lorenz," writes Mr. Heisch, "to whom questions were first addressed, at once stated that he was aware of the practice, but added, that it is generally difficult to get hold of individual cases, as the obtaining of arsenic without a doctor's certificate is contrary to law, and those who do so are very anxious to conceal the fact, particularly from medical men and priests. Dr. Lorenz was, however, well acquainted with one gentleman, an arsenic eater, with whom he kindly put me in communication, and to whom I shall refer again more particularly. He also says that he knows arsenic is commonly taken by the peasants in Styria, the Tyrol, and the Salzkammergut, principally by huntsmen and wood-cutters, to improve their wind and prevent fatigue. He gives the following particulars:—

"The arsenic is taken pure in some warm liquid, as coffee, fasting, beginning with a bit the size of a pin's head, and increasing to that of a pea. The complexion and general appearance are much improved, and the parties using it seldom look so old as they really are, but he has never heard of any case in which it was used to improve personal beauty, though he cannot say that it never is so used. The first dose

is always followed by slight symptoms of poisoning, such as burning pain in the stomach and sickness, but not very severe.

"Once begun it can only be left off by very gradually diminishing the daily dose, as a sudden cessation causes sickness, burning pains in the stomach, and other symptoms of poisoning, very speedily followed by death.

"As a rule, arsenic eaters are very long lived, and are peculiarly exempt from infectious diseases, fevers, &c. ; but unless they gradually give up the practice invariably die suddenly at last.

"In some arsenic works near Salzburg with which he is acquainted, he says the only men who can stand the work for any time are those who swallow daily doses of arsenic, the fumes, &c., soon killing the others. The director of these works, the gentleman before alluded to, sent me the following particulars of his own case. (This gentleman's name I suppress, as he writes that he does not wish the only thing known about him in England to be the fact that he is an arsenic eater; but if any judicial inquiry should arise which might render positive evidence of arsenic eating necessary, his name and testimony will be forthcoming.)

"At seventeen years of age, while studying assaying, I had much to do with arsenic, and was advised by my teacher, M. Bönsch, Professor of Chemistry and Mineralogy at Eisleben, to begin the habit of arsenic eating. I quote the precise words he addressed to me. 'If you wish to continue the study of assaying, and become hereafter superintendent of a factory, more especially of an arsenic factory, in which position there are so few, and which is abandoned by so many, and to preserve yourself from the fumes which injure the lungs of most, if not of all, and to continue to enjoy your customary health and spirits, and to attain a tolerably advanced age, I advise you, nay, it is absolutely necessary, that besides strictly abstaining from spirituous liquors, you should learn to take arsenic; but do not forget when you have attained the age of fifty years gradually to decrease your dose, till from the dose to which you have become accustomed, you return to that with which you began, or even less.' I have made trial of my preceptor's prescriptions till now, the forty-fifth year of my age. The dose with which I began, and that which I take at present, I enclose; they are taken once a day, early, in any warm liquid, such as coffee, but not in any spirituous liquors.' The doses sent were No. 1, original dose, three grains; No. 2, present dose, twenty-three grains of pure white arsenic in coarse powder. Dr. Arbele says this gentleman's daily dose has been weighed there also, and found as above. Mr. — continues: 'About an hour after taking my first dose (I took the same quantity daily for three months), there followed slight perspiration with griping pains in the bowels, and after three or four hours a loose evacuation; this was followed by a keen appetite, and a feeling of excitement. With the exception of the pain, the same symptoms follow every increase of the dose. I subjoin as a caution that it is not advisable to begin arsenic eating before the age of twelve or after thirty years.' In reply to my question, if any harm results from either interrupting, or altogether discontinuing the practice, he replies, 'Evil consequences only ensue from a long continued interruption. From circumstances I am often

obliged to leave it off for two or three days, and I feel only slight languor and loss of appetite, and I resume taking the arsenic in somewhat smaller doses. On two occasions, at the earnest solicitations of my friends, I attempted entirely to leave off the arsenic. The second time was in January, 1855. I was induced to try it a second time from a belief that my first illness might have arisen from some other cause. On the third day of the second week after leaving off the dose I was attacked with faintness, depression of spirits, mental weakness, and a total loss of the little appetite I still had; sleep also entirely deserted me. On the fourth day I had violent palpitation of the heart, accompanied by profuse perspiration. Inflammation of the lungs followed, and I was laid up for nine weeks, the same as on the first occasion of leaving off the arsenic. Had I not been bled, I should most likely have died of apoplexy. As a restorative I resumed the arsenic eating in smaller doses, and with a firm determination never again to be seduced into leaving it off, except as originally directed by my preceptor. The results on both occasions were precisely the same, and death would certainly have ensued had I not resumed arsenic eating.' One of the most remarkable points in this narrative is that this gentleman *began* with a dose which we should consider poisonous. This is the only case of which I have been able to obtain such full particulars, but several others have been mentioned to me by those who knew the parties and can vouch for their truth, which I will briefly relate.

"One gentleman, besides stating that he is well aware of the existence of the practice, says he is well acquainted with a brewer in Klagenfûrth, who has taken daily doses of arsenic for many years. He is now past middle life, but astonishes every one by his fresh juvenile appearance; he is always exhorting other people to follow his example, and says, 'See how strong and fresh I am, and what an advantage I have over you all! In times of epidemic fever or cholera, what a fright you are in, while I feel sure of never taking infection.'

"Dr. Arbele writes, 'Mr. Curator Kürsinger (I presume curator of some museum at Salzburg), notwithstanding his long professional work in Lungau and Binnzgau, knew only two arsenic eaters—one the gentleman whose case had just been related, the other the ranger of the hunting district in Grossarl, named Trauner. This man was, at the advanced age of 81, still a keen chamois hunter, and an active climber of mountains; he met his death by a fall from a mountain height, while engaged in his occupation. Mr. Kürsinger says he always seemed very healthy, and every evening regularly, after remaining a little too long over his glass, he took a dose of arsenic, which enabled him to get up the next morning perfectly sober and quite bright. Professor Fenzl, of Vienna, was acquainted with this man, and made a statement before some learned society concerning him, a notice of which Mr. Kürsinger saw in the 'Wiener Zeitung,' but I have not been able to find the statement itself. Mr. Krum, the pharmacist here, tells me that there is in Stürzburg a well-known arsenic eater, Mr. Schmid, who now takes daily twelve and sometimes fifteen grains of arsenic. He began taking arsenic from curiosity, and appears very healthy, but always becomes sickly and falls away if he

attempts to leave it off. The director of the arsenic factory before alluded to is also said to be very healthy, and not to look so old as forty-five which he really is.*

"As a proof how much secrecy is observed by those who practise arsenic eating, I may mention that Dr. Arbele says he inquired of four medical men, well acquainted with the people of the districts in question, both in the towns and country, and they could not tell him of any individual case, but knew of the custom only by report.

"Two criminal cases have been mentioned to me, in which the known habit of arsenic eating was successfully pleaded in favour of the accused. The first by Dr. Kottowitz, of Neuhaus, was that of a girl taken up in that neighbourhood on strong suspicion of having poisoned one or more people with arsenic, and though circumstances were strongly against her, yet the systematic arsenic eating in the district was pleaded so successfully in her favour, that she was acquitted, and still lives near Neuhaus, but is believed by every one to be guilty. The other case was mentioned by Dr. Lorenz. A woman was accused of poisoning her husband, but brought such clear proof that he was an arsenic eater, as fully to account for arsenic being found in the body. She was, of course, acquitted.

"One fact mentioned to me by some friends is well worthy of note. They say: 'In this part of the world, when a graveyard is full, it is shut up for about twelve years, when all the graves which are not private property by purchase are dug up, the bones collected in the charnel-house, the ground ploughed over, and burying begins again. On these occasions, the bodies of arsenic eaters are found almost unchanged, and recognizable by their friends. Many people suppose that the finding of their bodies is the origin of the story of the vampire.' In the 'Medicinisches Jahrbuch des Oesterreichischen Kaiserstaates, 1822, neueste Folge', there is a report by Professor Schallgruber, of the Imperial Lyceum at Grätz, of an investigation undertaken by order of government into various cases of poisoning by arsenic. After giving details of six post-mortem examinations, he says:—'The reason of the frequency of these sad cases appears to me to be the familiarity with arsenic which exists in our country, particularly the higher parts. There is hardly a district in Upper Styria where you will not find arsenic in at least one house, under the name of hydrach. They use it for the complaints of domestic animals, to kill vermin, and as a stomachic to excite an appetite. I saw one peasant show another on the point of a knife how much arsenic he took daily, without which, he said, he could not live; the quantity I should estimate at two grains. It is said, but this I will not answer for, that in that part of the country this poison is used in making cheese; and, in fact, several cases of poisoning by cheese have occurred in Upper Styria, one not long since. The above-mentioned peasant states, I believe truly, that they buy the arsenic from the Tyrolese, who bring into the country

* The man above mentioned seems quite to differ with Mr. — on the impropriety of taking arsenic with spirituous liquors, and actually employs it as a means of correcting their effects. All others that I have heard of, concur in saying that it should be taken fasting.

spirits and other medicines, and so are the cause of much mischief.' This report is, I believe, mentioned in Orfila's 'Toxicology,' and one or two other works, but I have not seen it quoted myself; it is interesting, as being early and official evidence of arsenic eating. Since I received the above information, a gentleman who was studying at this hospital, told me that, when an assistant in Lincolnshire, he knew a man who began taking arsenic for some skin disease, and gradually increased the dose to five grains daily. He said he himself supplied him with this dose daily for a long time. He wrote to the medical man with whom he was assistant, and I have been for a long time promised full particulars of the case, but beyond the fact that he took five grains of arsenic, in the form of Fowler's solution, daily, for about six years, and could never leave it off without inconvenience, and a return of his old complaint, I have as yet not received them. I have delayed publishing these facts for some time, hoping to get information on some other points, for which I have written to my friends abroad; but as considerable delay takes place in all communications with them, I have thought it better to publish at once the information I have already received. All the parties spoken of are people on whom the fullest reliance can be placed, and who have taken much pains to ascertain the foregoing particulars. The questions which still remain unanswered are these:—

"1st. Can any official report be obtained of the trials of the two people mentioned by Drs. Kottowitz and Lorenz?"

"2d. Do medical men in these districts, when using arsenic medicinally, find the same cumulative effects as we experience here? Or is there anything in the air or mode of living which prevents it?"

"3d. Can any evidence be obtained as to how much of the arsenic taken is excreted? To show whether the body gradually becomes capable of enduring its presence, or whether it acquires the power of throwing it off?"

"I have proposed to the gentleman who furnished me with the particulars of his own case either to make an estimate of the arsenic contained in his own urine and fæces during twenty-four hours, or to collect the same and forward them to me that I may do so, but as yet have received no answer."

ART. 11.—*Suggestions for utilizing the statistics of disease amongst the Pauper Poor.* By Dr. MILROY.

(*Lancet*, Jan. 28, 1860.)

For the care of the 14,963 parishes and unions in England and Wales, there are upwards of 3000 medical officers employed under the general superintendence of the Poor-Law Board, and the yearly public expenses for the relief thus afforded to the poor, are estimated at a quarter of a million sterling. The entire number of paupers

* The fact of the preservation of the bodies shows that some considerable quantity must be retained.

three months ago* was, in round figures, 850,000, of whom 111,500 were inmates of workhouses, and the rest were receiving out-door relief, and, consequently, living in their own dwellings. Now supposing that there is little more than a single attack of illness in the course of a twelvemonth to each pauper,—an estimate very much below the probable mark,—we have at once an annual register (for every case is required to be entered) of a million recorded cases of sickness, amongst that very portion of the population, too, whose condition it is most important, for the public welfare, to ascertain. Moreover, besides the regular paupers, a large proportion of the poorer labouring classes are in sickness treated by the parochial medical officers.

Hitherto the immense mass of statistical information in the returns made by these gentlemen, has never been explored, or turned to any account; nor can it be until some system be adopted to tabulate and collect the leading facts. We know nothing, as we ought to know, as to the most frequent disabling diseases in different towns, villages, and rural districts, amongst the poor; nor the influence of age, sex, condition, and employment in their production. And yet most valuable data upon all these points might be obtained from the returns which the medical officers are required to make for boards of guardians, and which thenceforth most unfortunately cease to exist.

The mortuary returns afford a very imperfect idea of the suffering, disablement, and wretchedness occasioned by any malady. Take one example: on an average, 16,000 persons die yearly in England and Wales from continued fever. This number of deaths probably represents little short of 200,000 cases, of a disease, too, which experience has proved to be all but under direct control and prevention as regards its causation, and which is also one of the most frequent occasions of pauperism amongst the families of the poor.

If we suppose that there are between twenty and thirty cases of sickness for every death, knowing, moreover, that from 50,000 to 60,000 annual deaths in this country may be regarded as premature and avoidable, there must be at the very lowest estimate more than a million attacks of illness every year which might be prevented by greater attention to the hygienic condition of the labouring classes more especially. No wonder, then, that three fourths of all the actual paupers in the country have been made paupers, directly or indirectly, by disease.

The public interest demands that all authentic means of elucidating this great social problem should be brought into requisition; and no plan can be better than that which has been followed with such good results in other departments of the public service. Five-and-twenty years ago, no use was made of the constantly accumulating medical returns of our army and navy in reference to the average annual amount of sickness, mortality, and disablement amongst our soldiers and sailors, although it had long been suspected that the rates were excessively high. The statistical returns and reports since published

* The paper was written in the early part of 1858, and submitted at the time to the consideration of the Poor-Law Board, who undertook to give it due attention.

have afforded the groundwork for almost all the salutary changes which have been already effected, or which still remain to be effected, in both services.

Were something of the same sort done with the mass of instructive details contained in the returns and reports of the parochial medical officers, equally beneficial results would ensue to the poorer classes, who suffer a disproportionate amount of sickness and death from circumstances not inevitable or inseparable from mere poverty, but which are superadded to it from either the ignorance or the criminal neglect of those who have it in their power to prevent their production. An annual report founded upon an examination of these documents, or rather of a simple tabulated register of their leading results according to a form submitted to the meeting, could not fail, in conjunction with the admirable yearly report of the Registrar-General, to be of the highest value to the science of public hygiene and topographical medicine. The tabulated returns would of course have all to be transmitted to the Poor-Law Board, and there examined and digested by a competent authority. This scheme could only be successfully carried out, it is obvious, by securing the co-operation of the parochial medical officers throughout the kingdom. These gentlemen have, however, always shown themselves amongst the most active promoters of every rational proposal for improving the social condition of the poor, and for advancing the best and highest aims of the healing art. If it were as easy, Dr. Milroy observed, to overcome official inertia and the unwillingness of governmental departments to introduce any change in established procedure, as it would be to enlist the sympathy and assistance of our professional brethren to the measure suggested, the prospect of something being done would probably not be very remote. It will not be from the medical officers that the chief obstacle to the project being entertained is to be looked for. Their co-operation has but to be solicited in the right channel, and that co-operation will be, ere long, very generally accorded, on grounds purely beneficent and scientific. The sanitary inquiries instituted twenty years ago at the instance of the Poor-Law Board, and which issued in obtaining the authentic information respecting the domiciliary and general condition of the working classes on which all the recent legislation on public hygiene has been in a great measure founded, owed most of their value to the important evidence of parochial medical officers in different parts of the country.

Besides the duty of preparing the annual report on the sickness, &c., amongst the poor throughout the kingdom, the services of a competent officer in connection with the Poor-Law Board might be signally useful in various ways. The state of many of the workhouses calls for inquiry; and no one obviously could do this so efficiently as a gentleman who would have to make himself acquainted with the state of all of them. The single fact that the number of deaths in the metropolitan workhouses has constituted the eleventh or twelfth part of the whole mortality of this great metropolis, will suffice to show the magnitude and importance of the interests involved in such an investigation.

(B) ACUTE DISEASES.

ART. 12.—*On the principal Epidemics of 1859.*

By Dr. McWILLIAM.

(British Med. Journal, Nov. 19, 1859.)

Cholera broke out in July last at Bombay and Poona, and almost simultaneously on the continent of Europe, selecting on this, as on former occasions, the city of Hamburg as the scene of its development. It next appeared at Helsingfors, in the Gulf of Finland; and afterwards in Soultre, in Sweden; and, early in September, it declared itself in Stockholm. While cholera was prevailing in these northern latitudes, its appearance was also announced in Murcia, in the south-eastern part of Spain. This disease, however, soon abated here in the town; but it lingers still on the coast, as Alicante and Valentia are still considered as ports suspected of cholera infection. More recently, the disease has attacked Rotterdam and Bruges, at which latter place its progress was for some time most alarming. There was not, it appeared, any very satisfactory or trustworthy information with reference to the origin of the disease in any of the continental ports; but it was well known that, in the course of the past summer and autumn, cholera had been imported into several of the ports of this country by vessels from Hamburg; viz., into the river Thames, in two different vessels; into Hull, Grimsby, Southampton, and North Shields. In the last-named port the disease was communicated to a lodging-house on shore, where it proved fatal to two of the inmates. From the time that the existence of cholera was known, our government appear to have been fully alive to the necessity of taking measures against the invasion of this country by that scourge. Quarantine restriction was not resorted to, nor was the freedom of commerce or of intercourse with other countries at all interfered with; but every precaution short of these was taken by the authorities. All arrivals in the ports of this country, more especially in those having intercourse with Hamburg, were carefully watched for cholera cases; and in those vessels where the disease did exist, a certain degree of isolation from other ships, and limitation of intercourse with the shore (but not such as to cause inconvenience), were recommended, and in all cases followed. The sick sailors brought into the Thames were at once transferred to the "Dreadnought;" and, had occasion required, cholera hospitals were ready for immediate use. The local authorities at such ports were exhorted to provide places of reception for poor passengers and seamen who might arrive suffering from cholera. They were also furnished with the admirable provisional memorandum drawn up by Mr. Simon, which earnestly urged upon local authorities the immediate and energetic exercise of the powers conferred on them by the Nuisances Removal Act during the prevalence of cholera, diarrhoea, diphtheria, typhus, or any other kind of fever; and which also contains concise and clear suggestions for the prevention and mitigation of these and other epidemic disorders.

Diarrhœa was unusually fatal in London during the past summer, and a death from cholera was occasionally to be found in the reports of the Registrar-General. Partial outbreaks of cholera, as on the banks of the Itchen, near Southampton, were said to have occurred in some of the country districts; but nowhere in this country except at Wick, in Caithness, and at Glass Houghton, in the parish of Castleford, near Pontefract, had the disease appeared in an epidemic form.

In the West Indies, *yellow fever* had been prevalent at several of the islands, more especially at Antigua, Trinidad, and St. Thomas. In the "La Plata," which arrived last week at Southampton from St. Thomas, there had been fifteen deaths from yellow fever during the passage home. Much remained to be done in the way of improving military barracks in the West Indies; and, indeed, a thorough and minute inspection of all barracks in these islands seemed absolutely necessary, if we intend to put an end to, or at all events to mitigate, the evils of every-day occurrence in that part of our colonial possessions.

Scarlatina and *diphtheria* had prevailed in most parts of this country, and more especially in the rural districts. Diphtheria had also appeared in Australia. The origin and progress of this disease in a country like Australia, which had all along enjoyed a comparative exemption from epidemics, were subjects worthy of careful investigation.

The great *smallpox epidemic*, which commenced in 1857, had within the last twelve months had possession of this metropolis, within the limits of which scarcely less than one thousand persons have paid in this period by death, and probably ten times that amount by sickness, the penalty of their neglect of, or of the imperfect manner in which they have received the great prophylactic of, vaccination.

ART. 13.—*On the treatment of Inflammation.* By DR. LAWSON, Professor of the Theory and Practice of Medicine in the Medical College, Ohio, Cincinnati.

(*Amer. Jour. of Med. Sciences*, Jan., 1860.)

Dr. Lawson's paper is an elaborate and very able criticism of the well-known views of Dr. Bennett, of Edinburgh. Of the ability of this criticism, sufficient proof may, we think, be found in the remarks upon the value of statistics as a guide in the treatment of disease, and upon the fallacy of supposing that the type of disease is fixed, and that a treatment which is right to-day will also be right to-morrow.

"It becomes an important question for the practitioner to decide, *how far confidence can be placed in medical statistics*, especially such as bear on this subject, and to what extent such evidence can be made a guide in the treatment of disease? An examination of the statistics of pneumonia, which occupy so important a position in Dr. Bennett's theory, will reveal results so variable and contradictory, as to deprive them of the slightest claim to authority. Thus, without depletion,

Dr. Bennett's statistics show a mortality of 1 in $21\frac{1}{4}$; Dietl's, 1 in 13; the homœopathic, 1 in 6; and the non-bleeding plan in Vienna, in 1856, 1 in 4. With antimony, bleeding, &c., Grisolle lost 1 in 8; Dr. Bell, 1 in 17·7; Trousseau, 1 in 26; Burkart, 1 in 60; Wossildo, none in 76. Pneumonia treated by inhalation of chloroform furnishes the following mortality: in the hands of Baumgärtner, 1 in 10; Varentrapp, 1 in 23; Wucherer, 1 in 90! In the Royal Infirmary, Edinburgh, former statistics show a mortality of 1 in 3; and this constitutes, mainly, the foundation for Dr. Bennett's denunciation of depletory treatment.

"In addition to this, Kissel treated 112 cases, with a mortality of $5 = 1$ in $22\frac{1}{2}$. When the urine was alkaline he gave iron; when it was acid he gave copper.

"Here is exhibited a very wide range of figures. The non-bleeding plan varies from 1 in 4 to 1 in $21\frac{1}{2}$; the antiphlogistic from 1 in 3 to 1 in 90. Are not these results too variable to constitute any sound basis of practice? If we take Dr. Bennett's statistics, we would certainly not deplete; if we take Wossildo's results as the guide, we will as certainly resort to bloodletting; but if we chance to adopt the tables of Wucherer, then we will administer chloroform! or iron and copper, if we depend on Kissel. Each partisan will find his theory fully sustained by these figures; but the judicious practitioner will perceive that some unseen agency has modified the results, and that the mere figures are but so many fallacies. It is evident, therefore, that the statistics of pneumonia, as a whole, are utterly worthless and unreliable as practical guides.

"If we seek an explanation of these contradictory results in the treatment of pneumonia, it will be found in the numerous qualifying conditions connected with age, season, climate, epidemic and endemic influences, early treatment, stage, extent, and complications of the disease. And to these conditions we must add, in a general sense, the *individuality* of each case; indeed, so great are the differences in constitutions, that no two examples will exhibit the same characteristics throughout, nor will they admit of precisely the same method of treatment. And it is a due appreciation of these more minute shades of differences, as well as the broad distinctions observed in the varying *forms* of the disease, that constitutes the truly skilful physician, and which enables him to meet the emergencies of each case, instead of relying on conclusions drawn from *groups* of cases.

"Viewing nationalities in a somewhat prejudiced light, a critical writer intimates that the English think more of some other case than the one under treatment, while the French think more of the disease than of the patient; hence the former individualise the disease, the latter generalise the patient; but the true course is that indicated by Hufeland, to *generalise the disease and individualise the patient*. It is quite immaterial to our present purposes, whether these distinctions exist among French, Germans, and English, or not, but we cannot fail to observe their strong development in individual writers. Statisticians rob each case of its individuality, and cast it upon the sea of uncertainties pertaining to others of a different character. Thus one series will all be bled, another will receive tartar emetic, and a third

left to the chances of nature. In the first class, some are bled who should have been stimulated; in the second, tartar emetic is administered when bleeding would have been preferable; and in the third class, some are permitted to die from mere over-action. In this blundering, if not criminal procedure, individuality is ignored, and the practitioner prescribes for a mere *name*, leaving the patient to the mercies of chance or fate.

"It is evident, therefore, that a rational treatment must secure to each case its own individuality; and as the shades of differences, and the corresponding modifications of treatment cannot be expressed in *groups*, statistics, in this sense, become simply an impossibility. For example, bleeding, antimony, mercury, and blisters, may be demanded in one case; quinine, opium, and wine, in the next; a third may require but little interference, except a well-regulated diet with moderate stimulants; and so on, *ad infinitum*. The treatment of pneumonia demands not a single but many agents; and he who would attempt to develop results by statistics, will be required to make each group a *unit*. It is the proper *combination* of remedies, and not a single agent or mode of practice, which is capable of securing the best results in the treatment of disease.

* * * * *

"The variation of inflammatory affections may be clearly observed, on a limited scale, in what occurs during the different seasons of a single year. Thus it is well known that inflammatory diseases bear and require more antiphlogistic treatment during winter than summer. But still more distinctly are these variations observable in different years; indeed, every practitioner must have remarked that the same classes of disease manifest a much higher grade of action, and require more depletion during some years than others. And, if this is true of seasons and years, there is no obvious reason why the same influences may not extend through longer periods or cycles of time. In our own country we have numerous illustrations bearing on this question of the change of the type and character of disease. Thus it is well known that, since the prevalence of Asiatic cholera in 1832, there has been manifested a greater degree of irritability of the alimentary canal, and consequently diminished tolerance of cathartic medicine. Purgatives have fallen into disuse, since the days of Hamilton, even to a greater extent than has bloodletting since the days of Cullen and Gregory. And it may be safely affirmed that the change of practice in this respect cannot be ascribed to an improved pathology, but to a broad and enlightened experience growing out of an obvious change in the *type* of disease.

"In the western and southern portions of the United States another and even more striking change has occurred. The endemic fevers of this vast region were originally of the periodical type; but as early as 1842 we were invaded by well-defined (typhoid) fever, which in many localities superseded the periodical fevers. The continued type predominated in many localities for a period of ten years, since which time it has gradually diminished, while periodical fever again becomes more common. I do not assert that these changes were radical and complete in every district, but the predominance of the two types

occurred, as I have stated, in many regions of country, and the typhoid element seems to have permanently impressed most of the diseases incident to the climate. And this important modification of disease demanded at once a radical change of treatment. The preparations of bark and mercury, together with bloodletting, were no longer efficient; but instead of these, the employment of stimulants and nutrients became the leading agents. Quinine, so efficacious in periodical fevers, was not only inefficient in the new form of disease, but was often found positively pernicious; mercury was seldom required, and frequently wholly inadmissible. This great change of treatment was not due to an improved pathology, but it arose from the introduction of a new form of disease, and experience soon indicated the necessary changes of treatment.

"But still another modification in the type of disease has occurred here and elsewhere. Practitioners have observed, for some years past, a *nervous* type, with often a decided tendency to prostration, so much so, indeed, that depletion must be resorted to cautiously, or entirely interdicted.

"Now it is evident, from the concurrent statements of writers in Europe and America, that these changes are general and common to both countries; and that a corresponding modification of treatment has occurred, co-extensive with the changes in the type of disease. Typhoid fever has of late years spread over England, and has been fully recognised by the practitioners generally. In 1845, the writer of these remarks observed cases of typhoid fever in the London Fever Hospital, but they were limited in number, and, perhaps, not well defined, for Dr. Tweedie remarked that the disease had not been recognised, and that they made no distinction between the typhus and typhoid forms. Soon, however, typhoid fever multiplied, and its existence was fully recognised by Dr. Jenner and other observers.

"I may also mention here, as evidence of the change which the *type* of fever undergoes, that Dr. Tweedie's report for the year 1845 shows the low form of disease by the large quantity of stimulants demanded. He states that, in the epidemic of 1843, when 1100 patients were admitted, the quantity of wine administered was about 1800 ounces, and 60 of brandy; while the next year, although not half the number were admitted, they consumed 14,000 ounces of wine, and 760 of brandy, besides gin and porter! No fact could be more striking and conclusive than this.

"It ceases, therefore, to be a matter of surprise or doubt that these *symptomatic* causes, with others probably unknown, should modify the *type* of disease and require treatment greatly changed in character. The choleraic and typhous poisons, to say nothing of the causes which have so extensively modified the nervous system, must be regarded as fully competent to effect these important changes.

"It is contended, however, by Dr. Bennett, that *inflammation* is always essentially the same, and hence there has been no change in the *type* of disease. It is very true, indeed, that the elementary actions characteristic of inflammation must necessarily remain unchanged; that is, the adhesion of the corpuscles, distension of vessels, stagnation of blood, and finally, the exudation of lymph, are the same

in the days of Bennett that they were in those of Cullen. But this does not embrace the main question, for it is not the local changes occurring in an inflamed tissue which are supposed to have undergone changes, but it is the condition of the *general system*—of innervation, circulation, and all the vital functions. These become, from general causes, depressed; and although there may be no change in the microscopic appearances of inflammation, nevertheless the *reaction* is less intense, the tendency is to depression, and depletion is less demanded. Hence the *type* of disease may change, while the minute process of inflammation remains unaltered.

"It is not contended, however, that this change of type will be observed in every example of disease; on the contrary, we still witness the old division of sthenic and asthenic inflammations. The former, however, have diminished, until, finally, the latter predominate; or what would, perhaps, be more correct, there is a general lowering of the grade of action, which requires less depletion than did the same classes of disease in former years.

"At the same time, I am strongly inclined to believe that the great outcry against bleeding has driven us to the opposite extreme, and we now deplete less than the interests of our patients frequently require. With the prevailing aversion to bleeding, cases are liable to be overlooked, and depletion neglected from sheer habit. Dr. Christison clearly proves, within his own personal experience, that the synocha of Cullen has several times recurred, and each time demanding depletion. But he who would regard that form of fever as a *myth*, would not recognise its new introduction, and therefore would fail to meet its exigencies."

Dr. Lawson concludes his paper with this *argumentum ad hominem*. Dr. Bennett himself has been attacked by inflammation, and, lo! his case *demand*s bloodletting! His colleague, Dr. Miller, moreover, informs us that his sthenic constitution nobly sustained depletion. Alas for theory!

ART. 14.—*A fact bearing upon the questio vexata of Bleeding in Inflammation.* By ———.

(*Medical Times and Gazette*, Feb. 4, 1860.)

The following passage is met with in a lecture recently delivered by Professor Claude Bernard on Experimental Pathology and Operative Physiology at the College of France; its bearing upon the *questio vexata* of bleeding in inflammation is pointed out by the translator.

"When rabbits are placed under total abstinence they generally live a fortnight or three weeks; but when certain branches of the sympathetic nerve have been previously divided, the animals die within a few days when deprived of food, through acute inflammation of the viscera connected with the nervous twigs that have been divided. When, some time ago, I commenced this series of experiments, I discovered that the section of large divisions of the sympathetic nerve was apparently unattended with the slightest inconvenience as long as the health of these animals remained perfect. Some of them even became pregnant and brought forth their young;

but, as soon as a general debilitation of the system arose from want of proper nourishment, acute inflammation was produced in the organs deprived of nervous influence."

ART. 15.—*On latent Enteric Fever.* By Dr. TWEEDIE, Physician to the London Fever Hospital, &c.

(*Lancet*, Feb. 18, 1860.)

"There are cases," writes Dr. Tweedie in one of his very able Lumleian lectures on continued fever, "in which though some of the symptoms may be present, the general aspect of the disease is such as to leave its nature somewhat uncertain. For example, medical aid is sometimes requested by an individual, who is unable to give a better description of his ailments than that for some time previously he has been suffering from undefined indisposition, which he is unable to throw off; he complains of lassitude, irregular chills alternating with transient flushes of heat, of being easily fatigued, and unable to pursue his usual employment, and loss of appetite and restless nights. On further inquiry, it will transpire that the bowels have been irregular, with tendency to griping and purging, and consequently the whole ailment has been ascribed, not unreasonably, to what is popularly known as bilious disorder. After a few days, it is manifest that matters do not improve, but are probably getting worse; the prostration and disinclination to exertion have so much increased, that there is no longer the desire, or even the ability, to keep about, and the patient of his own accord remains at rest. Some, more energetic and enduring than others, make an effort to pursue their avocations, and I have known individuals transacting in a measure the ordinary duties of life,—mercantile men appearing 'on change,' or clergymen performing their parochial duties,—when on close examination, besides the altered countenance, general excitement, and staggering gait, the peculiar rose-coloured spots, relaxation of the bowels, and abdominal distension, showed too clearly the serious nature of the latent or hidden disease. I have known instances in which the patient could not be persuaded that he was seriously ill, until profuse hæmorrhage from the bowels convinced him that the apprehensions of his friends and medical attendant were not groundless, and I have seen such cases terminate fatally a few days after the first alarm was taken.

"In others, the disease may assume the form of common cold; there may be cough, accompanied by moist râles over one or both lungs, in addition to other signs of latent enteric fever; so that the whole phenomena are ascribed to the patient having 'taken cold.' But in a few days the chest affection passes away, leaving the other symptoms stationary, or, it may be, somewhat aggravated, until the true nature of the disease becomes revealed by some of the prominent signs of enteric fever.

"I need scarcely remark to my present audience that such latency is not confined to the class of maladies now under consideration, but is observed in symptomatic fevers, more especially subacute pulmonary inflammations—pleurisy and pneumonia, for example—in which the

only general signs to indicate the one or the other may be, perhaps, occasional cough, slight acceleration of breathing on unusual exertion, and irregular paroxysms of fever. When the chest is examined, we find one side dull, perhaps as high as the scapula, or even the clavicle, with absence of respiratory murmur, and, if the effusion be considerable, prominence of the intercostal spaces, if not perceptible dilatation of one side.

"But in uncomplicated latent enteric fever, physical diagnosis does little towards clearing up the mystery, so that we are obliged to trust to a minute survey of the symptoms, and to contrast them with whatever previous history we can obtain; and, after all, we are too often in the dark, and obliged either to confess our doubts and fears, or make a bold guess as to the nature of the disease. Happily, however, such obscurity is comparatively rare, and I have drawn your attention to these cases of latent fever more with the view of warning you of their occasional occurrence, than of aiding you with the diagnostic signs.

"M. Louis, in alluding to latent enteric fever, gives several marked cases in illustration, and has shown that the disease may proceed even to intestinal perforation, without any of the symptoms that usually indicate this fatal lesion."

ART. 16—On Variolous Orchitis and Ovaritis. By M. BERAUD.

(*Archiv. Gén. de Méd.*, t. 13, and *Medical Times and Gazette*, Jan. 14, 1860.)

In this essay M. Beraud draws attention to the frequency of the occurrence of orchitis during the course of variola, a co-existence quite ignored by writers on the disease, and only casually glanced at by MM. Velpeau and Gosselin. Of its reality the author has been able to convince himself by clinical observation, and by an examination of the large number of persons dying of variola brought for dissection during the three years he was prosector.

Pathological anatomy of variolous orchitis.—The affection has been observed under two forms; *peripheric* orchitis, by very much the most frequent form, and a *parenchymatous* orchitis. The *peripheric* form, again, is divisible into two distinct varieties; in one of which inflammation of the serous membrane is the essential feature, and in the other an inflammation of the tail of the epididymis, accompanied by a plastic deposit.

The inflammation of the *tunica vaginalis* is in the great majority of cases partial, the parietal layer, too, being almost exclusively affected. At the inflamed spots, which are usually situated below, the serous membrane is injected and rugous, and sometimes there is an infiltration resembling chemosis. There is usually a small quantity of limpid or yellowish fluid, which is also generally accompanied by false membranes of a bright yellow colour, floating in the liquid. They have a striking resemblance in colour to the contents of variolous pustules. Besides the vaginalitis, in most of the cases there is a *plastic deposit* near the tail of the epididymis. It is of a yellowish colour, much resembling the plastic matter met with in the *tunica vaginalis*. Sometimes so small as to be hardly visible, in most cases

the deposit varies from a small almond to a filbert in size. Its consistency is considerable, so that it is not crushed when pressed. Its structure is laminated, like the layers deposited within an aneurismal sac. The testicle, as well as the rest of the genito-urinary apparatus, remained in this form unaffected.

The *parenchymatous form* of variolous orchitis is of much rarer occurrence, the author having only met with one instance, which he gives in considerable detail.

Causes and mode of production of variolous orchitis.—With respect to the cause, nothing in fact can be stated beyond that it is due to the variolous condition prevailing. Its occurrence will, however, be found to be one of considerable frequency, when attention is more directed to the subject; and the author did not find it wanting in more than three or four out of twenty cases of fatal variola that came under his notice. Although occasionally met with in lads, it is mostly found at the adult age, when the organ is in full vigour. Its occurrence does not seem to be favoured by a prior morbid condition, for in almost all the author's cases the most complete integrity of the organ was found to exist. Tempted at first to believe that the inflammation in the peripheric form was propagated from the skin to the serous membrane, the author soon saw reason to abandon this view, and to conclude that it was primarily and spontaneously developed at the serous surface, as also that it was quite independent of any so-called metastatic action.

Symptoms of variolous orchitis.—With few exceptions the orchitis is bilateral, the left side being that generally most seriously affected. The affection of the testicle, too, appears to come on at the same time with the eruption of the skin, and to undergo development simultaneously with it. In the peripheric form one of the earliest signs is tumefaction, but this is usually but slight, confined to the lower portion of the testis, and accompanied with but little fluctuation. There is no redness of the skin beyond that induced by the presence of pustules: but the pain and tenderness are very considerable. A very remarkable sensation of *frottement* is produced in bringing the two opposite surfaces of the tunica vaginalis together by gently pressing up the testis towards the ring. Where there is the fibrinous deposit near the tail of the epididymis, this gives rise to a small painful tumour in that region. When the active inflammation of the serous membrane is co-existent with this deposit, the tumefaction and pain are much more considerable than when either of these states exists alone. The parenchymatous form is characterised by different symptoms, accordingly as the testis is alone affected, or is so in common with the tunica vaginalis: but, as already stated, this form is very rarely met with.

Termination and treatment of variolous orchitis.—The only termination of the peripheric form that has been observed is by resolution, although abscess might have been predicated from the violence the inflammation sometimes assumes. It is probable that some of the so-called *critical abscesses*, observed at the termination of variola, are really examples of the termination of an orchitis which originated at the commencement of the eruptive stage of the variola. The cel-

lar tissue surrounding the tail of the epididymis, is in such case the probable seat of the abscess. The mere inflammation of the tunica vaginalis easily undergoes complete resolution. In general towards the twentieth day the patient is cured both of the principal disease and of this concomitant affection: and there is no example of the orchitis passing into a chronic condition—the plastic deposit around the epididymis requiring, however, a variable period for its entire removal. As to treatment, that this need not be active is evident from the fact of the affection usually passing unperceived and becoming spontaneously cured. Still, it is probable that the so-called critical suppurations met with in the scrotum, and met with at the end of variola, might be prevented by attention being paid to the earlier stage of inflammatory action. The author suggests the application of *emplastrum Vigo* to the scrotum, as a means both of limiting the development of pustules, and of beneficially influencing any serous inflammation that may exist. A suspensory bandage should be employed from the commencement.

Variolous ovaritis.—The author's attention was directed to this by analogy: and observation has since confirmed his provisions. Although he has repeatedly observed the symptoms of the affection clinically, and has no reason to believe it is rarer than the orchitis, he is at present in a condition to publish only three cases verified by autopsies. More cases will doubtless soon follow now the subject has been brought forward. He believes that there is a periphric and a parenchymatous form of the affection; and that the prognosis will not be found so favorable as in the case of orchitis. May not some of the instances of peritonitis supervening upon variola have originated in this condition? At all events, in future, the fixed pain and tenderness in the iliac regions observed during variola calls for treatment by leeching, &c.

ART. 17.—On the treatment of Adynamic Remittent Fever with Nitric Acid. By Dr. BENFORD BROWN.

(*Amer. Journ. Med. Sciences*, January, 1880.)

Dr. Brown tells us that he has had most satisfactory proof of the efficacy of nitric acid under these circumstances in at least forty cases, and that he does not remember a single fatal case after its free and constant use. In some of these cases, however, other remedies, as quinine were associated with the acid; and in very many, if not in all, nitrate of silver, stimulants, and nutriment were staple articles of treatment. The dose of the acid (strong) was three to sixteen drops every six hours in a little sweetened water. Four cases are given in illustration.

CASE 1.—This was the first instance of the kind in which I tested the remedial powers of nitric acid. The case had progressed to a considerable extent when first visited. In the beginning it was one of a simple form of remitting fever, but from neglect had assumed an alarming degree of malignancy. The subject of it was a white adult, æt. 25. His pulse was excessively feeble, and ranging between 80 and 90. The tongue very dry, brown,

and *fissured*. His mind was forgetful, and frequently wandering. He was usually somnolent and indifferent to objects around him, and to the issue of his case. Constant subsultus and vigilance. A troublesome diarrhoea was present, with abdominal pain and tenderness. These symptoms were further aggravated by tympanitis. The skin was constantly hot and devoid of perspiration. Emaciation had advanced to a considerable extent, and vital prostration to a manifest degree. In this case nitric acid was administered in doses of three drops every six hours, and before recovery was gradually increased to ten.

The chief remedy addressed to the abdominal complications was nitrate of silver with anodynes. There is a subacute inflammatory condition of the intestinal tube, which is frequently developed during the course of some of these cases, over the progress of which the nit. argent. exerts a control equal, if not superior, to what it does in the ulceration of Peyer's glands in typhoid fever. I am constrained to believe that this efficacy is increased by the co-administration of the acid. It is possible that the supposed decomposition of the salt in the stomach is in this way prevented. In connexion with other remedial measures, the patient was allowed the use of alcoholic stimulants and concentrated nutriment, as freely as his case required.

Under the combined influence of these means, the malignant features began to yield in a few days. The case assumed a mild type, and ultimately recovered.

CASE 2.—A coloured boy, *æt.* 12. This was a much more serious case than the first. When first visited, on the second day of his illness, he had a pulse of 140. Tongue very red, and disposed to be dry. Much abdominal tenderness on pressure, and constipation. Febrile reaction decided. Stupor of the mind to so great a degree as to prevent his comprehension of the questions addressed to him. There were morning remissions without perspiration. He was treated the first three or four days with gentle purgatives, cold applications to the head, sulphate of quinia during the remissions, and to control the excessive excitement of the circulation, and obviate the tendency to cerebral complication, the veratrum viride was administered. These objects were partially accomplished so long as the remedies were continued; but the equal tendency to adynamia or malignancy was not prevented. The case began to assume this type about the fifth day. His tongue became perfectly dry, brown, and crusty. It was so hard and contracted as to resemble flesh that had been subjected to the action of heat. The pulse diminished in force, while it increased in frequency. Fever assumed the continued form—incessant delirium, with an uncontrollable desire to escape from the house, diarrhoea, tympanitis, and tenderness over the abdomen. I now determined to adopt a different mode of treatment, with the sanction of my partner, Dr. Roan.

Nitric acid was given in three drop doses every six hours. Nitrate of silver one-quarter of a grain three times daily, with a liberal amount of nutriment and alcoholic stimulants. The improvement in all the malignant symptoms of this case, at the end of ten days, was remarkable. The type had undergone an entire change to that of the mildest form of remittent. One of the earliest and most noted perceptible alterations was in the condition of the tongue. As that organ became softer, paler, and more moist, all the alarming indications vanished, as if by magic. The convalescence of this patient was steady and permanent.

CASE 3.—This case, in general character, was almost identical with the second; the patient a boy, eight years old. Malignant symptoms supervened at a very early period of the attack. Of all these, I do not remember that

there was a single one of favorable import. His delirium resembled that of a fierce lunatic; while, with hot skin and dusky complexion, the pulse was very feeble and rapid. Sordes accumulated about the mouth. His tongue became so dry and indurated as to prevent protrusion. Extreme tympanitis set in, with an annoying diarrhoea, which further increased the physical prostration; involuntary discharge of urine and fæces. Under the influence of the acid and nitrate of silver, with stimulants and nourishment, this case steadily improved, assuming a very mild form, with very decided remissions and perspirations. The sulphate of quinia was then added to the other remedies with marked benefit. This little patient made a recovery that was never anticipated.

CASE 4.—A female servant, æt. 26. This case was remarkable for the malignancy of type, and also for its association with an attack of constitutional syphilis, with which the patient had suffered for some time previous to the appearance of fever. Doubtless much of this malignancy was due to the combined influence of both affections. While going about, and for some days before confinement to bed, the patient's mind was observed to be impaired, and occasionally she was delirious. This delirium continued for six weeks. When she came under our observation at the commencement of the second week of her sickness, the following symptoms were present: The condition of her mental faculties amounted almost to dementia. The pulse was excessively feeble, and not exceeding 90. Fever of a very low grade, with nocturnal exacerbations, followed by prostrated remissions, during which the temperature sank to a very low degree. Her tongue was never coated nor dry at any period; but was as tremulous when an attempt was made to protrude it as that of a person suffering with mania-à-potu. This tremulousness extended to the entire muscular system. Diarrhoea was both troublesome and exhausting. Towards the latter stages emaciation became extreme. The skin became covered with large sloughs and ulcers, probably to the number of thirty. These sloughs formed more particularly about the large joints. Some of them measured three inches across. When about to form, a small vesicle appeared under the cuticle, a circular slough of the skin then rapidly formed, and, after separating, left a deep and clean excavation, often extending to the muscles beneath. While these sloughs formed more readily on points exposed to pressure, they appeared indiscriminately over the surface about the large joints, back, &c. They neither granulated nor suppurated until the beginning of convalescence. In this case muscular prostration was extreme. When the patient was propped up in bed occasionally for a few moments, the heart would almost cease to act; the slightest muscular exertion greatly embarrassed her respiration.

Nitric acid, nitrate of silver, occasional opiates, and diffusible stimulants, with a sufficiency of nourishment, were administered, and continued during her entire illness—which was of more than two months' duration—with the exception of about a week, when she took iodide of potassium. The sloughs and ulcers assumed so aggravated a character about that period as to demand some antisyphilitic remedy. Under the iodide of potassium the ulcers improved perceptibly. A further increase of the adynamic symptoms compelled us to suspend this remedy, and again resort to the acid a second time. The patient is now to all appearance convalescing permanently, and, without a relapse, will recover her former health.

ART. 18.—*Remarks on the African Fever on the Lower Zambezi.*
By Dr. LIVINGSTONE, and Dr. JOHN KIRK.

(*Med. Times and Gazette*, Nov. 12, 1859.)

"While employed in trying to open up Africa to the influences of civilization and commerce, the first thing that naturally attracted our attention as medical men was the fever, which hitherto has proved one of the great barriers to the advances of Christian nations into the interior of the continent.

"We have enjoyed considerable facilities for observing the disease during the last twelve months, not only among those of the expedition, but likewise among the Portuguese and natives; and our experience having been very different from that of others, we deem it desirable to lay the results before our medical brethren.

"Our observations are far from being so full as might be desired, but when travelling in this country, where the grass towers over head and almost hides the narrow path, it is of the utmost importance to possess correct views at the beginning. Our remarks may thus prove serviceable in preventing others from making a wrong commencement.

"About a month was spent by the Expedition in endeavouring to find an opening through the Delta, from the sea to the main river.

"This part may be described as abounding in mangrove swamps and damp plains covered with gigantic grasses. The mangrove swamps emitted a most offensive smell, and gave us the impression that they were most fitly named, 'the hot-beds of fever.'

"Above the Delta the river is remarkable for the quantity of fine sand which it carries in its waters, and deposits everywhere in banks which during about half the year are exposed to the sun; there is comparatively little mud, and in this respect as well as in the greater height of its banks, which are also of sand, it differs greatly from the rivers of the west coast.

"The mountain of Meramhalla, 4000 feet high, appears to the east of Senna, and a range of hills on the north bank of the river stretches from that village up to Lupata, above which the country is hilly, and the banks of the river rocky.

"Warned by the fate of the "Great Niger Expedition," it was resolved that no unnecessary delay should take place in the Delta and that the prophylactic use of quinine should be tried.

"The season chosen for entering the river was the winter (from May to August), the most healthy time for Europeans, though not the most favorable for navigation, and during the stay of the Expedition among the mangroves not a single case of fever occurred among the members, or among the officers and men of the "Pearl," and H.M.S. "Hermes," who accompanied it.

"Quinine was taken regularly by all the Europeans, with a single exception, to the amount of two grains in sherry wine daily; and we were quite disposed to attribute our immunity to the prophylactic so much praised for its effect on the Niger; although the former

experience of one of us suggested its total inefficiency to ward off an attack.

"Three of our number became affected with incipient cinchonism; in their case the dose was lessened. We seemed always to be on the verge of cinchonism, as an additional dose could produce deafness and ringing in the ears to an intense degree in the course of a few hours.

"The following is the number of those who escaped without a single case of sickness, although exposed to hard work in the sun, and frequently sleeping in the boats in the lower part of the Delta: 16 officers, 37 seamen, 12 Krumen, and 2 boys from Sierra Leone.

"Three of our number were left in charge of goods on an island about twenty miles above the mangrove swamps, but probably not beyond their influence. The soil was of stratified sand, with an alluvial layer on the surface, covered with grasses. The neighbouring country presented the same aspect as the island, and was similarly constituted. Previous to this there had been hard work and constant excitement. Those left on the island, although less exposed, had a comparatively inactive life. They had not been many days alone when two of their number became sick.

"Mr. B— was seized with slight rigors, severe headache, delirium, with contracted pupils. These symptoms were sudden, and followed an imprudent course of exposure to the sun. Although removed in a few hours, they speedily returned after renewed exposure; but this time more severe, the full bounding pulse, dry tongue, and hot skin showing the intensity of the fever. Vomiting, which now commenced, proved the most troublesome symptom, and became an obstacle to all treatment, as remedies were not retained beyond a few seconds. Although the other symptoms abated after twelve hours, vomiting continued, and soon the disease returned in a more severe form, running on to muttering delirium, with involuntary picking of the bedclothes.

"When on the verge of coma remedies began to be retained, and the action of a large dose of calomel with jalap resin relieved the cerebral disorder, and, by reducing the irritability of the stomach, allowed quinine to be given. Convalescence was very rapid; in a few days all trace of the disease had gone.

"A fortnight afterwards Mr. B— was again seized with the same symptoms, vomiting again being the great obstacle, and, from its continuance after the others had been subdued, rendering the convalescence slow. Loss of memory and muscular weakness continued for some time after this attack. While Mr. B— was sick, Mr. C. L— had fever also, but in a very different form, and we did not then recognise the two as being the same disease. In him the symptoms were those of a cold, such as we see in Europe,—at first frontal headache, pain in the back and limbs, lassitude and indifference to what went on around; this state was followed by one in which he lay without speaking, headache had gone, the pulse was small and thready; the skin at one time burning hot, at others coated with a clammy perspiration. In this case slight diarrhoea had continued from the beginning. Quinine was tolerated; but although the constitutional action was

evident, yet the fever did not abate until a mercurial purgative had been given.

"These were the first cases of fever among us, nor did we see more for some time afterwards.

"In the month of August all the goods had been conveyed as far as Shupanga. Two officers were left there in charge, while the steam-vessel proceeded to Tette, taking with her those who had suffered when at the island.

"At this time the Portuguese were engaged in war against a party of rebels, and the army being destitute of medical appliances of every description, an opportunity was offered of observing the fever and other diseases in their worst forms among those exposed without proper shelter or food, and in subjects frequently worn out by constitutional disease.

"The commanding officer was the first case we were requested to see: he had obstinately refused all remedies, but being then in a state of coma, and unable longer to refuse, an active purge was given, followed by thirty-grain doses of quinine, which soon restored health. In him there had been no other symptom beyond those of severe constitutional fever running on rapidly to coma. This is the type most frequent in the lower parts of the Delta, especially at Quillimane. In the vicinity of Tette it is seldom fatal. The limited experience we here had seems to indicate that the type once established has a constant tendency to recur. Should further observation confirm this, it would become of importance to send all Europeans on their arrival to the higher lands; so that, should they be subject to fever, they might have it in its milder form first, and carry that with them to the more unhealthy localities.

"While the party at Shupanga enjoyed good health, notwithstanding the partial discontinuance of quinine, several cases happened on board the steam-vessel. We may mention that the accommodation on board was both very scanty and very uncomfortable. Water running into the cabin while the vessel was under steam, so as to keep the beds constantly wet beneath; fortunately the weather was dry, or the rain would have poured in from above also, as we subsequently experienced.

"Mr. R—, the engineer, had taken quinine with unvarying regularity, had an excellent appetite, and seemed to enjoy the climate; in working the engine he was obliged to see the fire lighted at 2½ a.m., in order to have steam by 7 a.m.

"An officer had shifted his bed through the night, so as to prevent Mr. R— getting his clothes, and he proceeded to light the fire in his shirt; the consequence was pains all over the body and limbs, the bones being especially sore, the face flushed, eyes suffused, headache, and quick pulse. The bowels had been regular, and the tongue clean. A pill composed of resin of jalap, calomel, rhubarb, and quinine, which had formerly been found efficient in fever, was given, more as a precautionary measure, than from a belief that this was a case of the complaint. It seemed more a common cold than the African fever. As soon as the remedy had operated, the symptoms abated. Quinine was then given, and one dose of ten grains pro-

duced severe cinchonism, from which, when he recovered, he was quite well without loss of strength.

"Towards the end of the rainy season the members of the Expedition were divided, those who had previously suffered from fever remained at Tette, while we went down the Zambezi to the sea, and explored the River Shine, both very unhealthy districts. While one of us was exposed to sun and rain navigating the vessel, and ashore superintending the wooding, the other was engaged botanising among grass jungles and mangrove swamps. Yet both of us escaped entirely. The use of quinine had been completely abandoned, and we are inclined to attribute our good health to the regular and active exercise which both these occupations imply. In this respect our experience corresponds with that of the Portuguese residents, who assert that while actively employed they enjoy good health.

"While we explored the high lands around Lake Shirwa the steam-vessel was left in the River Shine, under the care of Quartermaster Walker. We were absent twenty-four days, Walker was seized with fever the day we left: it commenced suddenly, though he had taken quinine regularly. On our return we found that he had been delirious most of the time, and the fever had shown no signs of abating; but the action of purgatives, followed by quinine, soon restored health, and in subsequent attacks, when at the sea-coast, among the mangroves, no difficulty was experienced in cutting short the attacks at the beginning.

"Our own experience in the high lands between the Shine and Lake Shirwa during twenty-four days, when we were exposed in the early hours to the dew from the long grass, continuing the march without interruption throughout the remainder of the day over rough country under the tropical sun, and then sleeping in the open air, and yet enjoying perfect health, as did also the natives who were with us, shows clearly that there exists within a short distance of the coast a healthy region well suited for the residence of Europeans.

"This region is elevated above the sea from 3000 to 4000 feet, and shut off from the coast lands by the range of high mountains to the east of Lake Shirwa. It is easy of access by the Shine, which flows at the foot of the hills, and is navigable the whole distance. To the north, the southern extremity of a chain of lakes, which extend far into the interior of the continent, reach within thirty miles of the River Shine. This elevated region may be looked on as the entrance, by means of these inland seas, to a great part of Central Africa, cut off hitherto from communication with European nations by the unhealthy lands which bound the coasts.

"The result of our experience has been to discontinue the daily use of quinine. It had been persevered in long after the conviction of the members had been against its prophylactic power. It is our conviction that we owe our escape from the disease far more to the good diet provided for us by Her Majesty's Government than to the use of quinine. We have been as fully exposed to the malarious influence as any party is likely to be. The vessel in which we have had to navigate is one which takes in so much water that our beds are constantly damp, and often rotten beneath, with a quantity of water in

the bilge of the ship. Yet we have found the fever quite amenable to treatment when taken early, and attention paid to any local congestions which may manifest themselves. Let it not be thought that we undervalue quinine, to it we trust for the removal of the disease when given after purgatives; in all forms of the fever we have found it of the greatest value, and three doses have always proved sufficient to induce the constitutional action even in those who have not been taking it previously.

"We have found the fever assuming a formidable type only when permitted to go on unchecked for some time in those exposed to great fatigue, damp, and poor diet, or when the irritable state of the stomach prevented the administration of quinine.

"In regard to the complications most frequently seen, among ourselves vomiting has been the most troublesome, and blistering over the stomach has seemed the best means of stopping it. We have fortunately escaped without more serious inflammatory lesions of the internal organs; but among the Portuguese two cases have been observed with pneumonia; both proved fatal—the tartrate of antimony seemed to have no effect, while stimulants were equally powerless when once sinking had commenced. Enlargements of the spleen, when of recent date, have yielded quickly to the use of the sulphate of iron and quinine.

"The ship's company, consisting of Krumen, have showed no greater immunity than the Europeans. The experiment of quinine was made with them, but its prophylactic action proved equally feeble as in our own case.

"In future expeditions of a similar nature, we beg to suggest that the work of the contracting ship-builders be more scrupulously tested than it had been in our case, when the defects once observed completely baffled all attempts at remedy."

ART. 19.—*On the study of Rheumatism, &c., by Synthesis.*

By Dr. B. W. RICHARDSON.

(*Brit. Med. Journal*, Feb. 4, 1860.)

The first part of this paper is devoted to a description of the mode in which synthesis may be applied in medicine, together with the history of the manner in which it had already proved useful, although directed by no systematic line of research. The author then indicates a systematic course for such inquiry, and divides diseases for this object into six great classes: viz., the parasitic diseases; the zymotics; diseases having their origin in the nervous system; diseases where, from disordered chemistry, a new growth is evolved out of the materials of the body, *i. e.*, malignant diseases; diseases of simple degeneration or of misplacement of natural constituents of the organism; and inflammation. He points out carefully the animals which might be properly subjected to synthetical experiment, *i. e.*, to the induction of disease; and he then narrates the results of his own experiments in the production of endocarditis by the introduction of lactic acid into, and its generation in, the system.

The following are the three inductions with which Dr. Richardson concludes his paper.

1. The results of his experiments teach, as fully as experiment could teach, that the hypothesis of Dr. Prout as to the cause of rheumatic inflammation, is essentially correct. In course of time, Dr. Richardson thinks, some modification of view may probably be offered as to the nature of lactic acid and its relationship to the economy. But the broad fact of the origin of the local disease under the influence of an acid poison will remain as ever. If the question should be asked, Why, on the supposition of such a cause for a specific disease, the so-called predisposing and exciting causes play so important a part? Dr. Richardson's reply would be, that the results obtained give an insight into the meaning of these terms, *predisposing* and *exciting*, which they never had before. A man may absolutely live on a diet which is predisposing to the disorder. He may have an error in digestion which shall predispose him to the disorder. But such a man may live on, and may suffer no acute mischief, as long as his excretory functions are perfect; so long as he can burn off the poison in the respiratory changes, or eliminate it in fluid excretions. The excretions of this man being checked, however, in the skin, in the lungs, in the kidneys, and therewith more or less in all these organs, the poison accumulates, floats round with the arterial blood, and wherever it finds a favouring point, excites the local change—*inflammation*.

2. The results related by Dr. Richardson are, he says, of interest as indicating new lines of inquiry for every other form of local inflammatory change. It may be that every local inflammation we know of as due to internal causes is the result of an agent similar in character to the one used by him; an agent not absolutely foreign to the body and not hurtful to the body when present in the normal proportions, (for lactic acid is innocent enough as a natural constituent of muscle), but poisonous truly, when accumulating, it pervades tissues to which it is foreign. It would be fair science indeed, with so distinct a suggestion before us as to take an empirical survey of the action of all the organic acids of the economy; but it would be most direct as a primary step to ascertain the nature of the various products eliminated in locally inflamed parts, and to test the effects of such products in quantity, on the economy. For an example, in the fluid matter excreted under the epidermis in erysipelas, what is there present? The fluid has an acid reaction and excoriates the parts over which it flows. Dr. Richardson adds, that, when he had learned the nature of the active principle here, he might expect to induce erysipelas as he had induced endocarditis.

3. The last point to which he refers touches on the question of the general or local origin of inflammation. He remarks that the common sayings, that inflammation "is a blood-disease," that it arises "from a perverted nutrition," and the like, while they are terms expressing a kind of unsophisticated truth, are far too vague to become established arguments, and sink into doubt altogether before the reasonings, partly brilliantly correct and partly brilliantly absurd, of the ingenious Virchow and his local origins. He hopes the observations he has been enabled to make had come in at the right time, to explain

what is general and what is local in an inflammatory act. He would put the position in the simplest terms at his command. Granting that a surface of skin or mucous membrane is uninfluenced by any extrinsic or intrinsic agent—the truism must be premised, childish as it is—the part does not inflame. Bring externally to that part a foreign substance, acetic acid, formic acid, mustard, a blister, hot water, and the part undergoes changes which are *purely local*. The general condition of the blood is natural; and this natural blood supplies all the elements of a local disease, even to suppuration itself, if the locally applied poison is applied efficiently. But change the mode of application, and assume that, as in the experiments made by the author, the producing agent is produced in the economy instead of the crucible, and is carried to the local part by the blood instead of the brush or the plaster. In the local upshot there will and can be no difference in the two cases; for the poison externally applied only acts powerfully in proportion as it is absorbed, and the poison brought by the blood only acts powerfully in proportion as it is circulated in the part. In both cases, therefore, veritable local changes will be produced in the affected part; the blood will not directly supply the exudation; the blood will not directly supply the pus if that fluid is formed; but both plastic matter, serum, pus, or aught else in the way of product, will be local results in the strictest sense. There was, nevertheless, one general symptom which distinguishes the inflammation of internal from that of external origin; viz., the systematic disturbance. The circulatory fluid cannot be changed with an agent, nor can organic chemistry produce an agent capable of exciting local changes, such as have been depicted, without a forerunning expression in the way of rigor or increased heat, that there is such a mal-chemistry at work, and that the electrical equilibrium of the body is disturbed. This systematic indication may indeed in the end become secondary to the local mischief in importance; it may be primary, it may kill while the local change is insignificant. This difference as to general results remembered, the local upshot in the two stated examples is essentially the same.

ART. 20.—*On Fatal Steatosis (Fatty Degeneration) of the Liver and Kidneys.* By Professor ROKITANSKY.

(*Zeitschrift der K. K. Gesellschaft der Aerzte zu Wien*, Aug. 8, 1859, and *American Med.-Chir. Review*, Nov., 1859.)

Professor Rokitansky states that several cases of death occurring after an apparently acute disease, had recently attracted his attention, first, on account of the post-mortem appearances they presented; and, secondly, from the circumstance that acute disease and its symptoms were evidently owing to uræmia which had developed itself slowly and imperceptibly, but had suddenly assumed a very violent character. This uræmia was caused by a disease of the kidneys, which undoubtedly had the same relation to a disease of the liver as the peculiar condition of the kidneys observed in acute atrophy of the liver bears to that affection. The very numerous cases which the author had

examined since the year 1839 showed that in acute atrophy of the liver the kidneys always undergo a change essentially analogous to that of the liver; but that this change is not necessarily proportionate to the degree of destruction to which the substance of the liver had been subjected; it consists in a flaccid, collapsed, softened, and even diffuent state of the renal tissue, accompanied by icteric discoloration, anæmia, and ecchymoses, particularly of the cortical substance. Further examination reveals a molecular disintegration of the epithelial cells, accumulation of fat in some of them, the cells being swelled in consequence of this accumulation, and, finally, the presence of fat in large quantity. This condition, and the diminished secretion of urine attending the disease, render it highly probable that a corresponding degree of uræmia coexists in such cases. Frerichs ('Klinik der Leberkrankheiten,' 1858) expresses himself in the following manner, referring to the observations made by Späth ('Wiener Medizinische Wochenschrift,' 1854): "There is not as much attention paid to the kidneys as they deserve. Besides the deposit of pigment owing to the icterus, I found that the epithelial cells of the glands were infiltrated with granular matter, and, for the most part, in a state of fatty degeneration, and that the tissue itself was flaccid and soft. These cases occurred mostly among pregnant women, in whom Späth has made the same observation. Whether this renal disease is found in the generality of cases, I leave undecided; the peculiar change of the urine, the disappearance of urea from it, and the accumulation of the latter in the blood—further, the transitory albuminuria, &c., point, at any rate, to a coexisting affection of the kidneys."

In the present state of our knowledge, the most plausible view about the relation of the disease of the liver to that of the kidneys seems to be that the latter is dependent upon, or secondary to, the hepatic affection.

The cases referred to in the beginning of this memoir consisted in *steatosis of the liver, accompanied by a high degree of steatosis of the kidneys*; their importance rests upon the possibility of proving them to be parallel to the cases of acute atrophy of the liver and the analogous renal affection which coexists with it; our task consists, therefore, in showing that the steatosis of the liver is the primary, the steatosis of the kidneys, however, the secondary disease, and that the symptoms, as well as the fatal termination, are owing to uræmia (to the disease of the kidneys). The material afforded by the observation of cases is unsatisfactory, owing to the circumstances under which the observations were made; and although the post-mortem examination furnishes very useful and complete data, we can presume but an attempt at the solution of the question. It will, nevertheless, hardly remain doubtful that there exists a steatosis of the liver which leads to a fatal termination by means of an analogous degeneration of the kidneys. The only statements which have reference to our subject are found in 'Wunderlich's Hand-book;' in treating of fatty liver (vol. iii, part 3, p. 327), he says, for instance: "Only when the disease is rapidly developed, pain, fever, and even serious cerebral symptoms, with delirium, sopor, prostration, and a speedy dissolution are observed." And in speaking of fatty degeneration of the kidneys (ibid.,

p. 453), he remarks that it sometimes accompanies fatty degeneration of the liver.

After these preliminaries the author communicates three cases observed by him, all of which present one and the same post-mortem appearance; also the symptoms noticed at the sick-bed coincide with each other. After having carefully examined these cases, the author continues his attempt at the solution of the question proposed above, as follows:

"It is evident that in our cases we have not to deal with that steatosis of the liver which occurs so commonly in the course of consuming suppurative processes, but with fatty livers, as they not rarely develop themselves to a high degree at the side of an abundant formation of fat in the areolar tissue, without the disease being always attributable to gross feeding. Further, it must be understood that the steatosis of the kidneys does not present that form which results from Bright's disease. Neither do the post-mortem appearances of the kidneys exhibit all those characteristics which mark this consecutive degeneration of the renal epithelium, nor do the symptoms during life indicate that Bright's disease and albuminuria existed and had passed, with the steatosis of the kidneys, into a second degenerative stage. Under these circumstances it can hardly admit of doubt, that the steatosis of the kidneys supervened secondarily upon the primary steatosis of the liver; and if we consider the high degree of steatosis of the kidneys, and the deficiency of urine in the urinary passages on one side, and the very slight manifestation of the signs of cholæmia on the other side, it is just as little to be doubted that the symptoms of the disease, appearing suddenly and increasing rapidly until death, are owing to the suppression of the urinary secretion—that is, to uræmia.

There exists thus a steatosis of the liver, occurring in individuals inclined to the formation of fat, to which sooner or later a steatosis of the kidneys is added, both which diseases attain slowly and imperceptibly so high a degree that, finally, a cessation of the biliary and urinary secretion supervenes, and, after a slight degree of icterus, death rapidly sets in from uræmia and a hemorrhagic decomposition of the blood. The similarity of this combined disease of the liver and kidneys with acute atrophy of the liver and the degeneration of the kidneys supervening upon it, is unmistakeable; it will become still more evident, if it can be demonstrated that in the latter disease the affection of the kidneys never fails to make its appearance in a corresponding degree, and that the symptoms attending it are, for the most part, of a uræmic character.

The cases reported by the author have arrested his attention, not only on account of the marked pathological changes of the liver and kidneys, but also on account of the individuality of the patients concerned. He does not doubt that cases of the same kind have occurred before, but have escaped notice and recognition, and that especially some of those not rare cases, where neglected drunkards perished unnoticed and without medical care, or died after a short sojourn in the hospital, under sopor and delirium, belonged to this class.

(c) CHRONIC DISEASES.

ART. 21.—*Cancer of nearly all the viscera, conjoined with Albuminuria of one kidney, and Saccharine Urine of the other.* By Dr. GIBB.

(*Lancet*, Nov. 12, 1860.)

CASE.—The patient was a female, æt. 55, who had been affected with cancer of the uterus for four years. Three years ago, two operations were performed for its removal by Mr. Hutchinson. The disease, however, returned, and destroyed the neck of the uterus, the anterior wall of the vagina, and the posterior part of the bladder, the urine dribbling from this general cavity for upwards of a year. She died on the 13th of October, the left leg being in a state of gangrene. On examining the body eight hours after death, the lungs, pleura, and bronchial glands were seen to be affected with cancer, the former containing distinct tuberculous masses as well, some as large as an egg. The liver weighed four pounds, and contained a number of circular cancerous tubercles, varying in size from that of a pea to a diameter of two inches; many of them projected upon the surface, the nodulations being distinctly felt during life. It was a good example of the tubera circumscripta of Farre. The stomach, pancreas, and entire alimentary canal were normal, although adhesions were frequent between their peritoneal surfaces. The spleen contained a cancerous nodule. The right kidney weighed, with the fluid contained in its dilated pelvis, seven ounces and three quarters; the left, much smaller, weighed, with its fluid, three ounces. From both extended dilated ureters filled with urine. The urine in the larger kidney was of the specific gravity of 1026, feebly acid, and contained sugar, as proved by the usual copper and other tests; that in the left was of the specific gravity of 1015, neutral, and contained much albumen. The larger kidney had two cancerous tubercles in its substance; the smaller kidney had the greater part of its substance absorbed, and formed a mere sac. As observed during life, the bladder, uterus, and vagina, with both ovaries, were extensively engaged in the disease, and the large cavity formed by the three first-named organs was affected with the epithelial form of cancer. The remaining portion of the uterus and the right ovary were diseased with the scirrhus form, and all the other organs already mentioned with the medullary form of cancer. Thus were present three varieties of cancer in one body; cancer and tubercle coexisted in the lungs; one kidney secreted saccharine, and the other albuminous urine, the specific gravity and general characters of each varying considerably. The termination of the dilated ureters in the bladder was unaffected, but no urine could be obtained from the bladder for examination during the last nine months of life. This discovery in regard to the difference of the urine in each kidney is one of much novelty and practical interest.

ART. 22.—*Iodide of Ammonia in Constitutional Syphilis.*
By Dr. GAMBERINI.

(*Journal de Pharmacie et de Chimie*, Nov., 1859.)

Dr. Gamberini refers to fourteen cases of constitutional syphilis in which he used iodide of ammonia; and his conclusion is that this preparation is more active and more prompt in acting than the analogous salts of iodide of potassium or sodium. The dose given varied

from two to sixteen grains, and no great inconvenience appears to have been caused by the latter quantity, beyond a passing sense of heat in the throat and stomach. Dr. Gamberini also found that inunctions with oil containing the salt (gr. iii in ℥j of olive oil) were of much service in removing nocturnal syphilitic pains in the muscles and joints.

Dr. B. W. Richardson was the first to employ this remedy, and the cases in which he recommends it are those in which iodide of potassium is generally used—scrofula, rheumatism, and syphilis. Dr. Richardson employed a smaller dose—from one to five grains, and a stronger ointment.

ART. 23.—*How are Children affected by the mercurial treatment of Syphilis in their parents.* By Dr. FAYE, Professor in the Faculty of Medicine in the University of Norway, &c.

(*Edinburgh Medical Journal*, March, 1860.)

At a time when the opinions of medical men as to the utility of a mercurial treatment in constitutional syphilis appear to be very contradictory, as has, moreover, been the case several times during the course of the last few centuries, it appears to Dr. Faye that it ought to be of great importance to obtain the well-established result of numerous medical observations of the state of health of children born of syphilitic parents who were treated by mercury.

We know very well that a great number of these children have been impregnated with the dyscrasia; and we also know that new modes of treatment, from which mercury is excluded, have failed in producing the wished for results in children; and especially, that the treatment by inoculation with chancreous pus (otherwise called "syphilization"), and the simple derivative method, have disappointed our expectations in this respect. It is clear that the absolute condemnation of mercurial treatment of late years pronounced by some physicians, ought to be based on something else than superficial appearances; and that, in order to be final, the comparison between the two methods ought to be carried out with precision and accuracy.

The surest and most simple proof of the cure of syphilis, the true touchstone showing that the disease is destroyed, or at least so neutralized in the system that the function of the ovaries and testicles remains intact, should undoubtedly be sought for in the circumstance, that the children of parents who have been syphilitic have been born healthy, and do not subsequently become affected in any way evidently attributable to the syphilitic dyscrasia.

The time has not yet arrived for deciding to what degree this test, important as it is both in a humane and therapeutic point of view, shall afford a satisfactory result with respect to several new non-mercurial modes of treatment; but on the other hand, we have the experience of centuries to show, in contradiction to the repeated condemnation pronounced by the anti-mercurialists, that many children produced by syphilitic parents, who have been suitably treated either

by mercury alone, or with mercury assisted by other remedies, have been born without any trace of the dyscrasia, and have continued healthy—a favorable result, which is obtained more frequently when the father alone has been affected. On this point we must ever remember, that the father may, although imperfectly cured, sometimes procreate a healthy child with a woman who is perfectly sound.

To enable us to judge with certainty, and to base our opinion upon an extensive induction, it is necessary, Dr. Faye thinks, to draw not only upon hospital, but also upon private practice, to ascertain the effect of mercurial treatment upon children. The author, therefore, takes the opportunity of requesting each practitioner who is interested in these questions, and who is in possession of well-established facts bearing on them, to be good enough to communicate the results of their experience in some mode, or to give him the references necessary to enable him to find them, if they are already published. He also requests the several medical societies and editors of journals kindly to assist in the publication of the wished-for researches. What he desires to be briefly informed of is as follows:—How many children born of syphilitic parents who have been treated with mercury, have come into the world healthy, and have continued so? and how many have succumbed to the dyscrasia, or have been successfully treated?

Also, how far the observation, long since made, has been found correct, as to the favorable effect on the health of the children of mercurial treatment undergone by the mothers during their pregnancy, when these mothers have previously produced syphilitic children? However, we must here bear in mind the remarkable fact, that women may purify themselves by repeated accouchements, and may finally give birth to healthy children after having had several diseased ones.

In order to attain the above object more completely, it is very desirable that the reports should state whether the father or the mother, or both, have been affected. In this mode we may more fully test the accuracy of the generally received opinion, that fathers who have undergone treatment produce healthy children more frequently than mothers, even apparently cured. To obtain conclusive information, it will not suffice to observe the children of the lower classes of the population who have been treated in hospital, because the members of these classes often lead an irregular life, and are exposed to relapses. Persons in easy circumstances, on the contrary, who have been treated at home, and have subsequently had several children born in wedlock, are more under the control of the physician, and we may have more confidence that the results of observation will in such instances possess a real value in enabling us to judge of the influence of anti-syphilitic treatment upon children.

ART. 24.—*Plica Polonica, an endemic disease at the Island of "Anno Bom."* By ALEXANDER VEDDER, M.D., Assistant-Surgeon U.S. Navy.

(*American Journal of Medical Science*, April, 1868.)

"During a recent voyage to the south-west coast of Africa, in the U.S. ship 'Supply,' we stopped at the small island of Anno Bom, for the purpose of obtaining fresh provisions for the crew, who had been deprived of their use for some sixty days preceding. This island is situated about eighty miles south of the equator, and at a distance of two hundred from the nearest land of the African continent. It is of a conical shape, rising towards the centre into numerous lofty peaks, and may be about thirty miles in circumference. From its position, so near to the equator, and the considerable elevation of its highlands, which rapidly condense the atmospheric moisture, the climate, especially of the low land bordering the sea, is necessarily very hot and damp, being enveloped in rain and mist for a large portion of the year. It is here that the only village on the island is placed. We were induced to believe, by the glowing description of this isolated spot, its productions and inhabitants, as given by the English 'Sailing Directions,' that we were about to visit another Eden, where the vices of civilized communities were unknown, and where man enjoyed the choicest fruits of the earth, without expending the sweat of his brow. How these anticipations were realized will be seen in the sequel.

"The inhabitants are all negroes, descendants of a cargo of shipwrecked slaves, and although the island belongs nominally to Portugal, that country exercises no sovereignty over it. Among the numbers who immediately boarded our ships from their canoes, on our dropping anchor, were some very remarkable from the peculiar disposition of their hair, or rather wool, which hung down from the head, in numerous small frizzled curls, resembling the bullion of an epaulette, and attaining a length of six or eight inches.

"I was at first disposed to think this one of the fanciful arrangements of the hair, so frequently seen among uncivilized races; but a closer examination revealed it to be that form of plica called multiform. On landing, and entering the village, numerous examples of the same disease presented themselves on men, women, and children; besides which, numbers had their heads closely shaved, evidently in order to free them from their disgusting appendage.

"No pain appeared to be experienced in handling the affected hair, one woman, at my request, pulling off several long curls, which were extremely brittle, and composed of numerous malformed reddish hairs, closely agglutinated together. I could gain no information relative to the origin of the affection, nor its effects on the health of the individual; but the cases seen by me appeared to affect the feeble and the robust indiscriminately.

"It is well known that this disease, under the name of Plica or Trichoma, first appeared in Poland, about the thirteenth century, and occurred only in those who were extremely filthy in their persons,

and who lead a life of misery. Of late it has almost entirely disappeared. In this small island we again find it in an endemic form, and evidently arising from causes nearly identical with those which produced the Polish affection, viz., dampness of climate, misery of life, and lack of cleanliness. These islanders live in miserable huts, which barely shelter them from rain, sleep at best on bare boards, and still more frequently on the damp earthen floors, and are so scantily clad as to be shivering from every passing blast. There being neither law nor government over them, they pay no regard to the rights of 'meum and tuum,' the stronger taking without scruple the pigs, poultry, and vegetables of the weaker, whenever the opportunity presents. In this way they have deprived themselves almost completely of the means of life, and the attenuated limbs and swollen abdomens of the great majority indicate sufficiently well the bulky and innutritious nature of their diet. I should add that the soil is extremely fertile, yielding every tropical product in abundance. I saw no other indications of disease amongst this people, with the exception of vitiligo, which appeared to be quite common, and some traces of the ravages of syphilis, probably introduced by the crews of slavers and whalers."

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 25.—*On the communicability of Insanity.* By M. BAILLARGER.

(*Gaz. des Hôpitaux*, Mar. 3, 1860, and *Edin. Med. Journ.*, May, 1860.)

Several members of a family affected with insanity (says M. Baillarger), and whose symptoms are exactly the same, are occasionally brought to asylums on the same day. In questioning one of these patients, we may anticipate on what point the other is insane; as, if we make some inquiries, we probably learn that both patients were not affected at the same time, but that one had been attacked some months previous to, and had communicated the disease by degrees to the other. Thus, M. Baillarger has known delirium transmitted from mother to daughter, and from mother to son.

Mme. P— and her daughter were admitted to La Salpêtrière at the same time. Both were mutually convinced that their food was poisoned; that they were followed on the street; and that aquafortis, &c., were thrown on them, which exhaled poisonous fumes around them.

The second example is still more curious:—Mme. X—, a remarkably intelligent woman, much respected by her two sons, the elder of whom was twenty years of age, became seized with a singular madness. She imagined that she was a somnambulist, and that often during the night her husband made her give consultations, of which she had no recollection on awaking. She supposed that he gained in this way large sums, and was constantly demanding this money from him.

Without enlarging on all the reasons she advanced in support of such notion, it will be sufficient to say, that by degrees she imparted her ideas to her eldest son, who, although he did not live with her, saw her almost every day, as, on quitting his work, he was obliged to pass a part of the night at home. The accusations of his mother excited him. He had some very violent discussions with his father, and even went to the authorities to inform against him. Insanity then became so evident, that the patient, who had just been enlisted, was rejected on account of mental alienation.

This young man and the girl P— both recovered.

Both have explained how the absolute confidence which they had in their mother exercised something like a fascination over them. They declared that, far from suspecting any defect in their reasoning faculties, they were, on the contrary, led away by their convictions.

M. X— has acknowledged that, under the influence of the constant quarrels arising from the unsuspected insanity of his mother, by work and want of sleep, his mind was agitated, and that he was then impressed with the ideas which he now stated, as constituting his insanity.

There are at present in La Salpêtrière two sisters, who were brought on the same day, with exactly the same symptoms of insanity. The elder is a widow, the younger is married. The former imagined that her brother-in-law wished to poison her; and she persuaded her sister, who lived with her, into the same belief. To guard against the effects of the poison, the patients set to drinking brandy, and it was from this time their insanity became more and more pronounced. The younger, who was under the care of M. Baillarger, admitted that up to this time her husband had been very kind to her; and that, during the eight years they had been married, she had had no cause to complain of him; but she is not the less convinced that he has made more than a hundred attempts to poison her.

In another instance, M. Baillarger has known the husband become insane under the influence and by the effect of the annoyance which his wife inflicted on him. What is very strange in this case is, that the woman, no doubt of a superior intelligence to her husband, had driven him mad by communicating to him the idea upon which she was herself insane, and actually had him sent as a lunatic to the Hospice de Bicêtre, while she herself remained at large.

Facts of this nature are somewhat rare, but they explain certain interesting questions in psychological medicine.

ART. 26.—*On the rational treatment of Delirium Tremens.* By Dr. DUNCANSON, Professor of Medicine in the University of Philadelphia.

(Edin. Med. Journ., April, 1860.)

Some months ago ('Abstract,' XXVIII, p. 77) Professor Laycock, of Edinburgh, gave a series of cases of delirium tremens, which had been treated successfully without opium and stimuli. He also endeavoured to show that the delirium and sleeplessness indicate comparatively harmless conditions of the nervous system: that they are

usually symptoms of some disease occurring in persons of drunken habits; that they usually cease within a given time spontaneously; that the proper method of cure is to treat the general or particular morbid state, and that opium and alcoholic stimuli, as generally recommended in this disease, are not only useless but dangerous drugs. The following remarks, which are from a letter addressed to Professor Laycock, show that Professor Dunglison was among the earliest advocates of a more rational method of treating delirium tremens.

"It has been not a little gratifying to me," writes Dr. Dunglison, "to find that, without having seen what I have written on the subject, you should have arrived at results so nearly corresponding with those of my own observation. In the 'American Medical Intelligencer' for May, 1842, of which I was editor, I inserted the following article, 'by the Editor.'

"*On the Eclectic Treatment of Delirium Tremens.*—In a recent work, 'Practice of Medicine,' vol. ii, p. 346, Philadelphia, 1842, we have stated that the course pursued by us, in the treatment of delirium tremens, has been entirely eclectic, in many cases expectant, and that the results have been such as to satisfy us. Under the view which we entertain of the nature of the affection—that the irregularity of nervous action is usually induced by the withdrawal of an accustomed stimulus, and that the recuperative powers are generally entirely sufficient to bring about the necessary equalization—we have treated the mass of the cases which have fallen under our care without either excitants proper or opiates. In the first instance, an emetic is given at times, if the patient is seen whilst labouring under the effects of a debauch, or any particular reason exists for its administration; and afterwards, a state of tranquillity in the chamber is enjoined—the intrusion of too much light and noise being prevented; and, when the stomach will retain it, gently nutritious and easily digestible diet is prescribed, the bowels being kept open by gentle cathartics;—and this has comprised the essential part of our treatment. In time the hallucinations have disappeared, sleep has returned, and entire restoration supervened. The preceding remarks are a proper prelude to the statistical account of the Women's Lunatic Asylum, at the Philadelphia Hospital, for the years 1840 and 1841, which is under our charge during the six months commencing on the 1st of November, and ending on the 1st of May, and under that of Dr. Pennock for the other half of the year. It may be proper to add, that, since the 1st of November, 1841, to the present time (May 1st, 1842), not a drop of alcoholic liquor has been used in the treatment of delirium tremens in the Women's Asylum, although some severe cases in the third stage have occurred, which, notwithstanding, terminated most satisfactorily.

"Patients admitted into the Women's Lunatic Asylum of the Philadelphia Hospital.

"YEAR 1840.

	Cases admitted.	Cured.	Died.
Intoxication	25	25	...
Delirium tremens, 1st stage	34	34	...
" " 2d "	10	10	...
" " 3d "	4	3	1

The fatal case was not seen by us. The patient died on the morning after her admission into the hospital, and had been treated in the city for nearly a week previously.

"YEAR 1841.

	Cases admitted.	Cured.	Died.
Intoxication	19	19	...
Delirium tremens, 1st stage	21	21	...
" " 2d "	9	9	...
" " 3d "	6	6	...

"In the third edition of my 'Practice of Medicine' (Philadelphia, 1848), I state further: 'A more recent authentic abstract of the number of patients admitted into the same asylum, from the 1st of November, 1844, to the 4th of February, 1845, exhibits that 32 cases were received, 18 of which are classed as intoxication. Of these not one died. The treatment here again was eclectic, often expectant, and not a drop of alcohol was given.'

"The results of the above plan of treatment were referred to some time ago, in an interesting pamphlet on 'Rational Medicine,' by Professor Worthington Hooke, of New Haven; but as I had doubts whether either the 'Medical Intelligencer' or my 'Practice of Medicine' is in the libraries of Edinburgh, I have copied from them what bears on the rational view which you have embraced of treating delirium tremens. As I have remarked in the latter work: 'It has, in the first place, restored the individual to health, not, perhaps, as rapidly as either brandy or opium, but more permanently. The term, "restoration to health," is hardly, indeed, applicable to the change effected by the former remedy. The patient is merely placed in the condition in which he was before the stimulus was withdrawn; and as he was "restored" by the brandy, he is apt, as before remarked, to regard it as indispensable to his healthy condition. In the "total abstinence" plan, however, the habit of drinking is broken in upon; and even if it should require a short time longer to restore the individual, there is the consolatory reflection, that delay is not useless, and every day's privation of the wonted stimulus diminishes the feeling of necessity, and the desire for it. One evidence of the good effect of the course is, that they who are dismissed cured rarely or never return to the wards. This is observation that has been made at the Philadelphia Hospital; and as it concerns paupers, it is pro-

bable that the cures are real and permanent; for, were it otherwise, they would, in subsequent attacks, be compelled, in their destitution, to seek the wards of the same excellent charity."

ART. 27.—*Case of Cerebellar Hæmorrhage.* By M. HILLAIRET.

(*Gaz. Méd. de Paris*, Oct. 29, 1859.)

The patient in this case recovered from the attack of cerebellar hæmorrhage, and died subsequently from cerebral hæmorrhage. The former accident was diagnosed during life by M. Hillairet.

CASE.—An old man, æt. 79, tall, and up to that time well in health, was seized in the following manner upon the morning of January 16th, 1859. Upon attempting to raise himself from bed, he fell back upon his right side, and there lay giving utterance to plaintive cries, straining in a constant effort at vomiting, and complaining of pain in the head, particularly on the right side, but without any loss of intelligence or sensibility. He remained lying on the right side, and if he was made to lie upon his back, he again turned, by a kind of rotation, upon his right side. Lying on his side, he did not appear to have lost any of the power of moving the limbs, head, or trunk; but he had entirely lost the power of sitting up in bed. The countenance had a very remarkable expression of vacancy. The vomiting continued for about five days, and then ceased; but it could at any time be brought on or aggravated by turning the patient on to his back. The headache continued for fourteen or fifteen days and then ceased, the locality of the pain towards the end being confined to the right occipital region. The sensibility was preserved throughout, and at times it seemed to be somewhat exalted. By slow degrees the patient recovered the power of sitting up in bed, and later still of standing and walking. In two months, indeed, he seemed to have recovered from all the more obvious paralytic symptoms. At all times he had the power of moving his limbs about in any direction he pleased while lying upon his back; but for some time after being able to stand with the help of an assistant, he was entirely unable to prevent his legs from starting in any direction but that in which he wished them to go; and even after the time that he had recovered the use of his legs, he suffered from a disposition to fall on the right side.

Six months later this patient was carried off in a few days by cerebral hæmorrhage, and on examining the brain, an extensive recent clot was found in the left optic thalamus, and in the centre of the white substance of the right cerebellar hemisphere—"un ancien foyer hæmorrhagique cicatrisé." This case, it will be seen, confirms in all respects the previous conclusions of Flourens, Hillairet, and others, respecting the signs of hæmorrhage into the cerebellum.

ART. 28.—*On the employment of arsenic in apoplectic congestions.*

By Dr. LAMARE PIQUOT, Physician to the Hospital at Honfleur.

(*Gaz. Hebdom. de Méd. et Chir.*, Jan. 20, 1860.)

In apoplectic subjects, according to Dr. Piquot, the red globules of the blood are in excess—most in excess when the dangers of congestion are most imminent. He has met with apoplectic subjects in whom the proportions of red globules in the clot amounted to so high a figure

as 75 per cent. ; and he thinks that there is always a tendency to congestion of the brain whenever this proportion rises to a higher point than 54 per cent. Arsenic is recommended for its power of reducing in a remarkable manner the number of the red globules—a fact, which, we are informed, may easily be verified by comparing the blood of a person who has taken arsenic in the ordinary way for thirty or forty days, with the blood of the same person before beginning to take the medicine. So remarkable, indeed, is this power of reducing the number of the red globules, that Dr. Piquot does not advise the use of arsenic in weakly old subjects in whom there is a disposition to apoplectic congestion.

Reference is made to upwards of forty cases of apoplectic congestion in which the author had satisfactory proofs of the benefit arising from arsenic. Very minute doses of arseniate of soda, extending over a period of from six weeks to two months, are recommended. Bleeding, we are informed, was never resorted to, except in very urgent cases.

ART. 29.—On spinal congestion in reapers.

By Dr. MARTIN DUCLAUX.

(*Gaz. Méd. de Paris*, March 24, 1860.)

The observations of Dr. Duclaux were made in the Arrondissement of Villefranche, Haut Garonne. The excessive heat of the summer and autumn of last year appears to have been the cause ; and reapers, but not reapers exclusively, the subjects. The symptoms were sudden headache, dim and dazzled vision, livid injection of the countenance and of the surface of the body generally, vomiting, perhaps purging. Soon afterwards, the limbs lost a great degree of their power, the sickles and other things falling out of the hands, and the gait becoming uncertain and staggering. Vertigo and pains in different parts of the vertebral column were also complained of. Further particulars, however, are necessary before we can acquire any definite notions as to the real nature of the affection to which attention is here directed.

ART. 30.—Case of Epilepsy cured by removing a depressed portion of skull. By Dr. H. P. YEATES, of Baltimore.

(*American Journal of Medical Science*, Jan., 1860.)

CASE.—On Friday, 21st October, 1859, I was called to a young man, named George E—, æt. 20, residing on Low Street, who had been subject to epilepsy for ten years. He was now labouring under convulsions, and had been so for several hours previous ; bowels torpid ; without fever. Ordered cathartic of prot. chlor. hyd. et ex. colocynth. comp.

22d.—No convulsions ; cheerful.

23d.—Eleven convulsions within an hour, and my attention was then called to the fact that ten years prior to this time he had received an injury on the head by a blow from a pick, such as used by labourers for excavating. Upon examination of the skull, there was found to be a considerable depression of a portion of the right parietal bone. Inasmuch as the first convulsion had followed the blow, and continued ever since, the longest interval being a

month, and latterly but a few days, I determined to apply the trephine, and remove the depressed portion of bone, which I proceeded to do, assisted by Drs. E. S. Baldwin and Mahan. At this time (3 o'clock p.m.) the patient was insensible. I removed two buttons of bone, and the piece dividing the openings, being full two inches in length and three-quarters of an inch in breadth. The pulse, which before the operation was small, now became fuller, and the laborious respiration which had also existed gradually subsided; his comatose condition remained, and he had seven convulsions during the afternoon and night.

24th.—Pulse 160; tongue, brown and dry; skin, hot and dry; coma continues; dilatation of the pupils; respiration hurried, without stertor, which existed on the previous day; bowels constipated. R.—Prot. chlor. hyd., x grs.

25th.—Pulse 160; tongue and skin as on the day before; pupils continue dilated; four convulsions since last visit; bowels not moved. Ordered enema of spts. terebinth. ℥j, ol. ricini ℥j, in a pint of warm water.

26th.—Pulse 140; tongue moist; skin dry, but not so hot as before; pupils natural; no convulsions; bowels moved freely during the night, and partially conscious, with much less coma. Ordered 10 grs. chlor. pot. in water every three hours.

27th.—Pulse 100; skin and tongue moist; pupils natural; no convulsion; bowels moved; sensibility and consciousness perfectly restored, and complains of soreness of the head; wound healing.

28th.—Pulse 100; tongue moist, pupils natural; no convulsion; bowels moved; perfectly sensible. R. continued.

29th.—Pulse 97; tongue moist and clean; no fever or convulsion, and perfectly rational. R. continued.

30th.—Pulse 80; no fever; all the functions natural. Suspend medicine, and dress the wound with simple cerate and lint. Diet, toast and tea; small piece of mutton-chop for dinner.

From this time the patient continued to improve, and now, four weeks since the operation, has had no convulsions, except those mentioned as occurring the second day after, and the wound in the scalp, which was of considerable size, has very nearly closed.

The most remarkable feature in this case is that on one of the buttons of bone removed is a tooth-like process proceeding from and perfectly attached to the piece, about one inch in length, which had no doubt been pressing on the brain, or projecting into the substance since the occurrence of the accident, and which I believe had been the cause of the convulsions.

ART. 31.—*Two cases of Tetanus unsuccessfully treated with Woorari.*

By (1) M. HENRI GINTRAC, Professor of Clinical Medicine at Bordeaux, and (2) M. FOLLIN, Physician to the Hôpital Necker, Paris.

(Gaz. Méd. de Paris, Nov. 26, 1859.)

1. *Dr. Gintrac's case.*—F—, æt. 18, wounded himself slightly in the sole of the foot by treading upon a nail. On the 17th of October, 1859, a fortnight after the accident, he began to suffer from stiffness in the neck, and pains in the head and limbs; on the 18th, fully marked symptoms of trismus and opisthotonos, with general tetanic spasms, made their appearance. In the course of the day, twenty leeches were applied along the spine, opium was administered internally in full quantity, a hammer-head dipped in boiling

water was applied twice to the stomach, and chloroform inhalations were employed several times. On the 20th, the state being in no wise improved, a mixture was ordered containing ten centigrammes of woorari in 120 grammes of water, one tablespoonful to be taken every two hours; and in the course of the day eight centigrammes of the same poison, divided into eight separate injections, were administered by the hypodermic method, but without any obvious amelioration of the spasms. On the day following, the 21st, the woorari mixture and injections were repeated, with no more satisfactory result. On the 22d, the tetanic symptoms being more marked than ever, and the state of the patient in other respects sensibly worse, eighteen centigrammes of woorari were injected, each injection being of double the strength of that used on the two preceding days, but the spasms still held their ground.

On the 23d, the state of the patient was still less satisfactory, and no good resulted from the injection, in the course of the day, of five centigrammes of a new specimen of woorari, obtained from MM. Miahle and Grassi, of Paris, and which was ascertained by experiment upon rabbits to be somewhat more powerful than the woorari which had been used by M. Gintrac up to this time. In the course of the 24th, fifteen grammes, and in the course of the 25th, twenty grammes, of new specimen of woorari were injected, and these injections, which were the last, were as fruitless as those which had been employed previously. Death happened on the 27th. The symptoms during life were those of an ordinary severe case of tetanus, the only one having any claim to peculiarity being a miliary eruption which overspread the body on the 23d day. After death, nothing out of the ordinary way was met with. It may be added that ten centigrammes of the woorari first used killed a rabbit in fifteen minutes, when injected into the subcutaneous cellular tissue of the thigh, and that the woorari used subsequently, when tested in the same manner, proved to be of about double the strength.

2. *M. Follin's Case*.—A young man, æt. 16, admitted on the 28th of October, 1859, into the Hôpital Necker, with a contused wound of the forearm. Pain and stiffness in the jaws made their appearance on the 3d of November. On the 9th, the patient being curved backward in a state of opisthotonos, and fully tetanic, M. Follin resolved to try the hypodermic treatment with woorari. The woorari used was that which had been used by MM. Manec and Vulpian, under similar circumstances, and between 8:30 a.m. and 3 a.m. of the day following, when the patient died, fifty centigrammes and a fraction of the poison were injected into the subcutaneous cellular tissue near the wound and near the nipple. The case is not given with sufficient circumstantiality to enable us to form any very accurate conclusions as to the effect of the treatment. The injections were repeated every half hour. The effect upon the spasms appears to have been very trifling, but in the course of three or four hours it is said that the patient could open his mouth a little more widely. All this while, however, symptoms of suffocation were rapidly making headway, and these would seem to have been the result of spasm, and not of paralysis.

ART. 32.—*A case of Tetanus treated by Aconite.*
By DR. LEONARD W. SEDGWICK, of Boroughbridge.

(*British Med. Jour.*, Jan. 28, 1860.)

The following case will be read with much interest by those who remember the recommendation of Mr. C. de Morgan, to try a full and

complete trial of aconite or analogous remedies in the treatment of tetanus (v. 'Abstract,' XXIX, 206). The result is not altogether conclusive.

CASE.—A farmer's labourer, æt. 30, strong and muscular, healthy and temperate, in jumping off a cart with a dung-fork in his hand, stuck it into his left thigh about three inches above the knee-joint on the inner and anterior surface. For some days the knee was stiff, and he was unable to work. Ten days afterwards, being much better, he began chopping sticks. About noon he got wet; and, whilst at his dinner, he was seized with a sharp pain between his shoulders; at the same time he thought he could not open his mouth as well as usual. On the eleventh day, he was unable to work from acute pain in the back and jaws.

On the twelfth day from the accident and the third of the tetanus, I saw him. He was then lying on his back, perspiring intensely, with an anxious painful expression of countenance. His jaws were nearly closed; the muscles of the back were very rigid; the loins were almost always some distance off the bed; the arms were not much affected; the legs were stiff; the abdominal muscles hard. Pulse 95, not very full. His tongue was moderately clean. The bowels were regular. He had no sleep. The urine was natural. I ordered him beef-tea and six ounces of brandy in the day; and five minims of Fleming's tincture of aconite in water every four hours. I laid open the wound, and removed a considerable piece of woollen cloth, which had been driven in from his trousers by the fork. To save repetition, I may here state that the wound healed steadily.

Fourth day.—He was much the same.

Fifth day.—The spasms were not so constant, but more violent. No aconitism had appeared. Seven minims of the tincture of aconite were given every four hours.

Sixth day.—He was worse. When the spasms were relaxed, which was only for a very few minutes, the pulse was 68; during the spasms, it rapidly rose to 120, and became smaller. Opisthotonos was extreme; the jaws were clenched. Ten minims of the tincture were given every four hours; and he was ordered to have ten ounces of brandy daily.

Seventh day.—Tingling in the hands and feet and slight giddiness having come on, the spasms had been much less severe. The pulse was weaker, and he had great sleeplessness and restlessness. The aconite was omitted; and twenty minims of chlorodyne were given in an ounce of water every four hours.

Eighth day.—He continued easier, and slept well. The pulse was stronger. The spasms were not so frequent. He complained of much pain from flatulence. Twenty minims of tincture of sumbul were given with the chlorodyne. I may remark, that I have seen more benefit from sumbul in flatulence than from any other drug.

Ninth day.—He took more beef-tea, &c., and was improving. The flatulence was diminished.

Tenth day.—Immediately after being startled by a loud noise, he had a violent spasm, lasting some time. It recurred at intervals with great violence. He was ordered to have three minims of tincture of aconite and ten of chlorodyne in an ounce of water every four hours.

Eleventh day.—He was much the same. The dose of tincture of aconite was increased to four minims.

Nothing of importance occurred until the seventeenth day. He continued the mixture, and the cramp decreased. The bowels having been confined

several days, he had a turpentine enema, which greatly relieved him, and was repeated every other day. On the seventeenth day, some tingling came on, and continued until the nineteenth, though the aconite was reduced to a minim and a half every four hours. On that day, the aconite was suspended. The next day there was more cramp. The aconite was resumed for a week longer, and he gradually recovered. In less than three months he was at work again. The muscles were some time in regaining their extensibility after the tetanic spasms had ceased.

ART. 33.—*On the treatment of Traumatic Tetanus by the application of ice to the spine.* By Dr. B. D. CARPENTER.

(*American Medical Monthly*, Jan., 1860.)

" This mode of treatment, Dr. Carpenter tells us, has resulted in the perfect cure of fifteen cases out of sixteen, and two cases are given in illustration. It is evident, however, that Dover's powder, assafœtida injections, &c., may put in a claim for having done some of the little good attributed to the treatment.

CASE 1.—Aug. 15th, 1858.—G. H—, German farm labourer, *æt.* 21; constitution and habits good. On the 12th instant was thrown from a horse, falling with his back on a ridge in the road-way; the horse had also stepped on his right leg about an inch and a half above and behind the internal ankle-joint, causing a lacerated and contused wound having the appearance of being produced by the side and one of the calks of the shoe.

For the three following days he was confined to the house, and a part of the time to the bed, by reason of the pain in the bruised back, and the particularly painful character of the wound on the leg.

On the morning of the 15th, becoming dissatisfied with remaining under the care of his employer's family, he started without their knowledge in the rain (the day being stormy) to walk about three miles, to the house of a German acquaintance of his, where he arrived quite prostrated from the fatigue of the walk in his condition, and soon complained of excessive pain in the wound of the leg, and in the lumbar region. The morning of the 16th I was summoned to visit him; found him paralysed below the lumbar region, with stiffness and soreness of the cervical region and muscles of the jaw, difficulty in swallowing and articulation, some pain at times at the lower end of sternum, slight headache, countenance anxious, skin dry and feverish, tongue slightly furred, pulse 120, inability to void the urine, bowels costive, parietes of the abdomen rigid as a board, wound granulating and healthy in appearance; the discharge, however, soon changed and became thin and watery. Introduced the catheter and drew off a large quantity of urine having no unnatural appearance; administered calomel grs. xij to be followed by a saline cathartic. 7 p.m., skin moist, face covered with a profuse perspiration, whole muscular system perfectly rigid, great pain at the lower end of sternum extending through to the back, down the back, and through the leg that was injured; jaw firmly closed, violent tetanic spasms occurring at intervals varying from five, ten, to fifteen minutes, drawing the body forcibly backwards and causing the patient to cry with the pain and violence; pulse 120.

Introduced catheter with some difficulty owing to the action of the sphincter and other muscular fibres of the track through which it was to pass. Ordered pulv. Dov. grs. xij every two hours, and sat. tinct. asafa. ℥iij in ℥iv of soapsuds, to be thrown into the rectum as often as the previous injection

should pass away; bladders filled with broken ice and kept free from water, to be applied and continued to the head and whole length of the spine.

17th, 7 a.m.—Some amelioration of pain at the sternum, less rigidity of general muscular system, inability to separate the jaws, spasms not quite so frequent or severe, pulse 110, varying, sometimes more frequent; introduced catheter and continued treatment.

7 p.m.—About the same (patients are usually worse at night), introduced catheter and continued treatment.

18th, 7 a.m.—More decided relief of pain at sternum and considerably less general rigidity; upon effort some motion of the jaws was accomplished during the interval from spasms. Ordered beef-tea to be given through an opening caused by the loss of two teeth, and through which the pulv. Dov. dissolved in water had been introduced; this was the first nourishment taken since the commencement of the spasms and complete rigidity, there being so much constriction about the throat and chest as to fear strangulation, indeed the tendency to suffocation was most alarming, so little motion of the chest and lungs was allowed that the face and lips never lost a dark mahogany hue, but were often materially darkened, until there was this relief of tetanic rigidity; pulse from 100 to 110. Introduced catheter and continued treatment.

7 p.m.—Continues to improve. Can articulate some words indistinctly; introduced catheter, and continued treatment.

The patient continued to improve up to the night of the 22d, during the sleep of which night he had the last spasm. Paralysis of the lower extremities continued twelve days longer, and there was some tetanic rigidity for some days; he could open the jaws sufficient to receive food, but the process of mastication was often arrested from inability to control the action of the muscles, the articulation and process of swallowing were imperfect from the same cause; fearing strangulation, only fluids or semi-fluids were allowed. During the progress of tetanus, the spasms are readily produced by apparently trivial causes, as loud talking in the room; a person rising from the chair, or attempting to walk across the floor, touching the bed or bedclothes, attempting to feel the pulse, or to administer in any way to the patient without first gently breaking to him what he is about to do, is certain to excite a spasm; so did there remain, for a more or less length of time after the recovery, a peculiar irritability of the nervous system, often strikingly marked about the throat, producing hesitancy in speech, sometimes arresting articulation in the middle of a word or sentence; the same arrest often occurs in the effort to swallow.

The Dover's powders were continued every four to six hours, to alleviate the pain in the leg and the general painful soreness of the muscular system; after the cessation of the spasms, blisters were applied over the lumbar region and ice continued to the head and spine not covered by the blister. The asafa. injections were continued sufficiently often and with a large quantity of the suds to produce two movements of the bowels every twenty-four hours. This course, together with the introduction of the catheter when necessary, was pursued until the 3d day of September, when the patient was discharged cured.

CASE 2.—Oct. 24th, 1859.—B. E—, æt. 11, a stout healthy boy. On the 10th instant, he jumped on the point of a rusty nail, which entered the ball of the foot to the depth of half an inch. Domestic applications were made to the wound, and the boy confined to the house.

On the 19th he began to complain of sore throat and stiffness in the cervical region.

20th.—There was, in addition, some difficulty about swallowing and some impediment in articulation, slight feverishness and headache. During the night he awoke crying that he had bitten his tongue.

21st.—The stiffness about the neck having increased with more dryness and heat of skin, and greater difficulty in swallowing and articulating, a physician was called in, who opened the patient's bowels and gave him some Dover's powders; during the night he again cried out that he had bitten his tongue. Examination showed that he had done so in two places.

Lock-jaw being now suspected, the physician was again summoned; and found, in addition to the general symptoms above enumerated, that there was some pain at the sternum and in the foot and leg previously injured, with slight general rigidity. Jaws not closed; wound was examined and appeared to be soundly treated. Continued the Dover's powders in larger and more frequent doses. I was then sent for, but being away from home, did not see him until the 24th, three p.m. He had then a moist skin, some pain in the head, stiffness of the neck and muscles of the joints, jaws could be opened five-eighths of an inch, except during the spasm, when they were forcibly closed. The teeth being irregularly set and the tongue not having been guarded, it was much swollen and the edges serrated and bleeding from being caught during the spasms between the teeth. Much pain at the lower end of sternum and through the leg and foot of the injured side, great tetanic general rigidity, pulse varying, in the morning 100, at night 110. The spasms during the day occurred at intervals of about ten minutes, increasing very much in frequency towards and during the night, particularly during sleep, which was broken, though all the spasms were not sufficiently severe to awake him. The body was thrown forward, and the most violent of the spasms raised the head and upper portions of the body from the bed, and occasioned agonizing screams from the little sufferer. Lungs much constricted, discolouring the lips and face; countenance anxious, and the mind depressed.

The physician in attendance stated that the patient had continued to grow worse since the commencement of the spasms on the 21st, that he had kept his bowels freely opened and given him pulv. Dov. grs. viij every three hours. I ordered broken ice to the head and spine, and reopened the wound, fearing particles of rust might have been lodged and retained in it, the family stating that it had never discharged much; discovered nothing, wound appeared to have been nicely healed. Slippery elm saturated in tinct. opii to be kept applied to the wound; Dover's powders to be continued as before, and injections of sat. tinct. asafa. ʒij in two of soapsuds as often repeated as they were removed. This treatment was continued, the quantity and frequency of the Dov. pulv. being gradually lessened up to November 6th, when the patient was discharged cured.

ART. 34.—A Case of Paralysis Agitans removed by the continuous galvanic current. By J. RUSSELL REYNOLDS, M.D., F.R.C.P., Assistant-Physician to the Westminster Hospital.

(*Lancet*, Dec. 3, 1859.)

CASE.—W. F—, male, æt. 57; married at the age of twenty, and the father of twelve children; height, 5 ft. 10½ in.; weight, under 11 st. No anatomical deformity; no hereditary predisposition to disease; has had good health; has lived well and temperately. His occupation is that of a car-

penster; he has resided in a healthy locality, and has never, until the commencement of his present illness, suffered from anything of a similar kind.

For the last five years he has had anxiety with regard to his children, and distress at parting from them, but he cannot definitely refer his malady to this cause. During the last two years he has noticed occasional tremor of the right arm and leg, the latter being affected less frequently and less severely than the former. The tremor has occurred if he (1) has been "put out about anything;" (2) has attempted to lift anything very heavy; (3) has "taken cold;" (4) has lifted liquid in a cup to the mouth; or (5) has fully extended the arm and forearm, and pressed anything firmly with the palm of the hand. But under all these circumstances the tremor has ceased when the "exciting cause" has been removed, and it has never been so severe as to prevent him from following his occupation, which is one requiring much exertion and accurate direction of movements.

For the last six or eight months he has suffered occasional vertigo—*i. e.* a "feeling as if he should fall, or pitch on his head; and as if the head were tied up in tight bandages." At the same time there has been darting pain through the head.

On September 20th he was at work as usual—was alternately stooping down and lifting over his head—when he suddenly felt vertigo, aching in knee-joints, and general disturbance; and at the same time violent shaking occurred in the right upper extremity. The agitation of the right arm continued throughout the day, but stopped at night. It returned on the following morning as soon as he moved.

On October 5th he was first seen by myself, and on this day (the fifteenth from its commencement) the agitation was extreme. Nevertheless, it had always ceased during the night, and on two occasions, for about an hour, and without assignable cause, during the day. He thinks it is arrested at night by pressing the anterior surface of the forearm against the crest of the ilium. With the exceptions above mentioned, the movements of the arm have been much the same as now seen; being occasionally aggravated, but not much, by emotional disturbances, or by the attempt at voluntary movement of the extremity.

The whole of the right upper limb is involved—*i. e.*, the hand moves on the forearm, the forearm on the arm, the arm on the shoulder; but the most constant and most extensive movement is that at the elbow-joint; the least constant and least extensive is that at the shoulder. Almost every direction of movement possible in the upper extremity is performed; from 22 to 24 double movements occur in five seconds, and the range of movement at the hand, when, for example, the jerking is principally that of flexion and extension of the forearm, varies from nine to ten inches. The movement, therefore, amounts to about eight feet per second.

To the patient himself the right arm feels hotter than the left, and a difference of temperature is very obvious to the hand of the observer. Temperature over left biceps, 87° Fahr.; over right, 91°.

The involuntary movement of the arm can be arrested by his lying on the sofa, and pressing the forearm against the ilium; but any attempt to move the limb voluntarily at once reproduces the shaking, although he remains in the recumbent posture. The movement is, moreover, instantly arrested by my firmly grasping either the forearm in any part of its upper two thirds, or the arm in its lower third. This is not a mere mechanical arrest of the movements, for it cannot be effected by holding the wrist; and the jerking recommences if, while the extremity is grasped in the manner described, the patient makes any attempt at a voluntary movement. The pressure is not painful, nor is it so directed as to arrest the circulation.

The mental condition of the patient, and his general health, appear unaffected.

Sensibility is unchanged in the right upper extremity; there is no deviation of the tongue, nor distortion of the features. He can walk well, and without dragging either leg; there is only occasionally slight tremor of the right leg.

A continuous galvanic current (direct) was applied to the arm and forearm, the movements of the latter being at the time arrested by pressure. At the end of five minutes he could execute voluntary movements without the least tremor, and emotional excitement failed to reproduce the jerking. The temperature of the two arms, examined after the current had been passing for half an hour, was equal. The involuntary movements did not return until three hours after the current was discontinued; they then reappeared, and continued throughout the evening; stopped at night, but returned on the following morning.

October 6th.—The current was applied while the arm was in violent movement, but in two minutes it became perfectly still. Application continued for an hour.

7th.—Last evening there was no jerking nor tremor for five hours after the current was discontinued; then it commenced, but stopped spontaneously in about half an hour, and during the remainder of the evening there was nothing more than very trifling tremor. The jerking has returned this morning, but is much less than on the first day of observation. There are but twenty alternations in fifteen seconds, and the range of movement is from three to four inches. The movement, therefore, is only .86 foot per second—less than one-eighth of what it was three days ago.

The current was applied on the 7th, on the 8th, and 10th, and after the 10th—i.e., after five applications—the spontaneous jactitation completely ceased. When any weight is held in the hand, and it is lifted towards the mouth, there is tremor; but this is slight, is not more than has occurred for the last two years, and it immediately ceases when the effort is discontinued. The arm and hand are weak; every movement can be executed by them voluntarily, but such movements are feeble.

28th.—Has written me a letter in good and legible hand.

The current was applied about every other day, for an hour, until November 10th, and during this time there was steady increase in the power of the limb, and the jactitation did not return. No medicine of any kind was given.

November 12th.—Quinine and iron were ordered.

15th.—W. F.—is in perfect general health; there is no jactitation, and only the slight tremor already described when the hand, with something in it, is raised towards the mouth.

The current employed in this case was derived from a Pulvermacher's chain battery of 120 links.

The above case requires, I think, no comment. It is more important that a fact of this character should be placed on record than that any speculation should be advanced in regard to the pathology of "paralysis agitans," or the *modus operandi* of the continuous galvanic current. The term which I have employed to denote the case involves no theory; it is but the name of a prominent symptom—a symptom which, in this instance, constituted almost the whole of the affection, and which, after a fortnight's duration without the slightest tendency to improvement, was quickly, but progressively and effectually, removed by a special form of treatment.

That this result of the continuous current is not to be attributed to mere accidental coincidence is, I think, evident from the history of :

Moreover, a similar result appears to have been obtained by Remak. In Schmidt's Jahrbücher, Jahrg., 1857, bd. 94, p. 102, there is the following entry: "Paralysis agitans, bei einem 60 jähr. manne in 15 sitz. beseitigt."

ART. 35.—Cases of saltatory Reflex-cramp. By Dr. BAMBERGER.

(*Wien Med. Wochensach.*, iv, v, 1859; and *Schmidt's Jahrb.*, iv, 1859.)

CASE 1.—A bookbinder, æt. 19, convalescing from a severe attack of pneumonia, was seized in the following manner. When his feet touched the ground, his legs and thighs became stiff and convulsed alternately, the stiffness being quite tetanic in its character, the convulsions in the form of violent and sudden shocks. Without support it was impossible for the patient to retain a standing posture. During this attack the countenance was flushed and drawn, the pulse accelerated and resistant, and there was marked mental depression, but no pain; after the attack there was considerable exhaustion. Upon lying down, the spasms immediately came to an end. While lying in bed, the patient remained free from his spasms unless the soles of his feet happened to be pressed upon or tickled, and then they returned, though in a much milder and more partial form. Occasionally, however, upon tickling or pressing upon the soles of the patient, as he lay in bed, strange movements of extension and flexion would be set up in the arms, which movements continued for some minutes, and were not to be controlled by the will. The sensibility of the legs was natural, and so was the power of movement so long as no attempt was made to stand; the spinal column, also, was free from tenderness in any part. A few days later the state of the patient was less satisfactory, the drawn and disturbed condition of the countenance was permanent; the tongue was protruded in jerks and imperfectly; the action of the heart was permanently tumultuous; the breathings were laboured; the iris contracted and dilated in quick alternation; and after the spasms in the right leg, and sometimes in the left, there remained a tremulous condition of the muscles. The treatment at this stage consisted of roborants, opium in moderate doses, and cold bathings to the spine. The day after, matters were worse rather than better, the night having been without sleep, and the want of breath more urgent. Morphia and Indian hemp were then prescribed, with occasional inhalations of chloroform vapour, and with decided relief to all the symptoms. Some days later the patient became the subject of mild typhus, and on recovery from this all the spasmodic symptoms had disappeared.

CASE 2.—An unmarried woman, æt. 30, chloritic for years, long the subject of dysmenorrhœa and gastralgia, and lately suffering greatly from a fear of having ulcer in the stomach. At present the chief complaint is of great debility and inability to stand. As in the case already described, the legs and thighs are alternately stiffened and convulsed as soon as the soles of the feet touch the ground; and this tetanico-convulsed condition is kept up as long as the attempt to stand is persevered in. There was also some stiffness in the muscles of the neck, by which the head was drawn a little on one side. During the attack the countenance was drawn and somewhat distorted, and the action of the heart tumultuous. On lying down, the stiff and convulsed state of the muscles was greatly relieved, but it was full fifteen minutes before it passed off entirely. The sensibility was entirely unaffected, and, while in bed, there was perfect command over the muscles. On tickling the soles of the feet, and especially on making pressure upon them, some slight convulsive movements passed over the arms and the upper part of the body,

but the legs and thighs manifested no movement. There was considerable tenderness at the pit of the stomach, and over the eighth, ninth, and tenth dorsal vertebræ, but pressure on these parts did not give rise to any reflex phenomena. Under a treatment similar to that which was adopted with apparent benefit in the last case, the symptoms in this case became aggravated, the spasms extending from the legs to a great part of the trunk, and returning to the legs upon any attempt to move them in bed. During the next six months, the patient continued very much in the same state, neither much better nor much worse. At the end of this time, she was admitted again into the hospital with symptoms of a tetanic character. These symptoms were followed by sopor of two days' duration. The last notice represents the patient as still suffering from stiffness and convulsion upon any attempt to stand or move, the only difference being that the stiffness and convulsion were somewhat less marked than at first.

ART. 36.—*Hypodermic injection of atrophine on the pneumogastric nerve in Asthma.* By M. A. COURTY.

(Comptes Rendus, Nov. 7, 1859.)

CASE.—Madame C—, æt. 54, for four years the subject of frequent, prolonged, and severe attacks of asthma. These attacks depended upon slight pulmonary emphysema. Ordinary measures, though fairly tried, had failed to produce any marked degree of relief. M. Courty proceeds:

On the 28th of August, 1859, I was summoned to a fresh attack, in all points like the most intense of those already observed. I immediately determined to try with Madame C—the effect of local narcotization. On the same day, therefore, at half-past three in the afternoon, I made the first injection of six drops of a solution of sulphate of atrophine of the strength of one in a hundred, equivalent to nearly three-hundredths of a grain of this salt, on the inside of the left sterno-mastoid, on a level with the thyroid cartilage, over the course of the sheath of the vessels and nerves of the neck—that is to say, of the pneumogastric. Some minutes after the injection, vertigo, dryness of the mouth and throat, dilatation of the pupils, frequency of the pulse, and very great sensibility to the voice and touch. At five o'clock we remarked the different symptoms of narcotization, and at the same time the respiration became easier. Blisters to the feet. 29th—During the night there was some agitation and even a little delirium, and at two o'clock in the morning a fit of coughing. The patient, however, was able to lie down and sleep by frequent intervals. By our orders, she took a pill containing about two-fifths of a grain of gummy extract of opium. This morning, at eleven o'clock, the oppression was less, but the cephalalgia greater. From time to time there was dizziness of the head and some fits of coughing shorter than the preceding. The second injection of six drops at the same level, but at the right side, and at least twice the depth. The canula was introduced little by little, so as to go as near as possible to the pneumogastric without danger. At half-past eleven there was drowsiness and congestion of the head; the patient complains of nothing. The symptoms of narcotization went on increasing, and at three o'clock in the afternoon Madame C— was in the same state of stupor as at half-past eleven. She did not recognise us, was apparently alarmed by our approach, and answered our inquiries shortly. There was headache, dryness of the mouth, and a sense of burning in the larynx and œsophagus, dilatation of the pupils, and a small,

frequent pulse, and nearly normal respiration. Blisters to the feet and a grain and a half of gummy extract of opium, to be divided into four pills, one to be taken every half-hour till the symptoms abate. At nine o'clock the symptoms of intoxication were less, but as the patient had only taken one pill, it appeared advisable, in order to relieve her quickly, to apply blisters to the calves of the legs, and give another dose of opium. August 30th—During the night her sleep was agitated by dreams and nightmares. The respiration was not at all so easy as it was yesterday during the intoxication. For many days we had remarked a furred state of the tongue and clammy mouth, the appetite nearly absent, and the constipation obstinate; this morning she vomited a cup of coffee. In consequence of this we prescribed a purgative (castor oil an ounce and a half, peppermint water and syrup of lemons, of each half an ounce. Mix). At ten o'clock at night Madame C— vomited the purgative and everything she had taken (beef-tea with vegetables, ptisans, &c.) We prescribed a laxative injection, which was soon returned without fæces. 31st—Has passed a very good night; says it is a long time since she rested as well; sleeps for many hours; tongue still furred, heavy, and yellow; a bitter taste on the mouth, nausea evident; five-sixths of a grain of tartar emetic to be repeated if the vomiting be not sufficient. At eight o'clock in the evening, after the first dose, the patient vomited yellowish-green matter. She felt debilitated after the dose, nevertheless the respiration has become freer and freer, and the expectoration easy; the attacks of cough are also much less frequent. Menstruation returned at the usual period.

September 1st—Less sleep than during the preceding night; no cough; expectoration easy; respiration much relieved, but slightly sibilant. At eleven o'clock the *third* injection was performed a little below the last point of puncture on the right side; the canula was moved upwards and downwards, so as to scatter the fluid over the greatest possible portion of the nerve. At ten o'clock in the evening we saw the patient again. Since half-past eleven in the morning the patient has recognised no one. Her hearing appears good, and at each word she seems surprised at the sounds which she hears; slight dilatation of the pupil; head hot; pulse small and frequent; respiration easy (blisters to the feet; pills of one-third of a grain of gummy extract of opium every half-hour till the disappearance of the symptoms of intoxication). Seven o'clock p.m.—The patient has recovered her senses for four hours, after having taken two opium pills. The headache is diminished. Occasionally there is giddiness and a little dryness of mouth. No fits of coughing this morning, and the respiration very easy. From this time—that is to say, four days after the first injection—the attacks of the asthma were entirely terminated, and the patient may be considered as cured.

October 1st—Madame C— is entirely recovered; she breathes easily; digests well; can walk and take the care of her household.

November 1st—The patient has not relapsed. Madame C— came to see me in my own house, although she lives at a considerable distance; she mounts the stairs without oppression; her respiration is free; she does not recollect having been as well for four years, the period of the attack of the disease. She considers herself, in spite of my fears on the subject, as permanently cured of her asthma, and in perfect possession of her health.

ART. 37.—*Hypodermic injection of Atrophine in external aches and pains.* By Dr. COWDELL

(*Medical Times and Gazette*, March 17, 1860.)

Atrophine, Dr. Cowdell thinks, is preferable in many cases to morphine. The morphine procured sleep in from three to ten minutes, but when the narcotic effect had passed off, the pain returned as bad as before. The atrophine caused slight drowsiness, dryness of the throat, and dilatation of the pupil: the only symptom of moment being the disappearance of the pain. The sulphate of atropine, being more soluble than the alkaloid itself, is preferred; the strength of the solution is gr. ij to ʒj of water. The instrument employed is an ordinary *mævus*-injecting syringe, consisting of a graduated tube with screw piston, and a hollow needle which screws on to the tube. The needle is thrust under the skin as near the seat of the pain as possible, and from ten to thirty minims of the solution gradually injected.

The cases subjoined will show the result:

CASE 1.—S. E.—, æt. 20, a domestic servant, admitted September 29, 1859, and stating as follows:—"Had an attack of acute rheumatism five months since, was delirious at intervals during three weeks, and, when recovering from the rheumatism, sixteen weeks ago, had an acute pain in the hip, which did not yield to the leeches or blisters which were repeatedly applied." On admission she was extremely anæmic, and experienced acute pain in the region of the sciatic nerve, increased by pressure. There was no hip affection; contour of hip normal; muscles very flabby; hamstrings contracted; knee bent; and the foot drawn up. She had during the whole time been unable to walk without crutches. Ordered meat diet. Ol. morrhue and a draught containing iodide of potassium.

30th.—Passed last night as usual, without sleep, and in agonies of pain. Injice sol. atropii sulph. mxxx in par. dolent.

October 1.—Slept well all night; felt immediate relief after the injection; says she has not had so good a night for sixteen weeks.

4th.—Hip is sore, but no pain unless pressed. Repet. inject. horâ somni.

5th.—The pain is entirely gone, not even the soreness remaining. Omit mist. R Ferri am. cit. gr. iv. ex aq. ter die.

She was treated for anæmia from this date to November 10, when the report runs thus:—

"November 10.—Patient has had no pain in the hip since the last injection on October 4. Two injections only were employed, at an interval of three days, the first of which gave immediate relief, the second removed pain and soreness altogether. Can walk with ease; no pain on pressure over the nerve, and she gains flesh rapidly. Discharged well."

CASE 2.—H. P.—, æt. 25, plasterer, admitted with chronic rheumatism December 1, 1859. He was somewhat relieved by use of guaiacum and iodide of potassium, which was continued until January 12, 1860, when complaining of an additional pain in the lumbar region which caused him to walk with his hands on his knees, the atropine injection was used.

January 13. The pain in back was greatly relieved last night by the injection. Omit. omn. meda. R Syr. ferri iodid. ʒij ter die.

15th.—Very much better; no pain in back; can walk quite erect; has a pain in the tensor vaginæ femoris muscle. Inject. repetatur.

17th.—Pain gone from the tensor vaginæ femoris muscle, but experiences slight pain in the gracilis and inner hamstrings. Repet. inject.

26th. Feels well and able to work; no pain whatever; says he is cured by the injections. Discharged well.

CASE 3.—E. D.—, æt. 50, nurse, admitted January 9 with all the ordinary symptoms of acute sciatica of one day's standing. She could not stand. Agonising pain in back and hip, and leg as far as the great toe. Ordered cal. cum opii. and the atropine injection at night.

13th.—Found much benefit from the injection last night, leg much better, but still a pain on pressure.

14th.—Used injection again last night, and this morning the pain is entirely gone; no pain even on pressure.

19th.—She continued improving, and on this day she was discharged well.

The peculiarity in this case is, that she was admitted the morning following the commencement of the attack; and therefore it is worthy of notice that neither abstraction of blood nor counter-irritation was resorted to, but the injection of atropine only, the effect of which upon the disease is remarkable.

CASE 4.—W. S.—, æt. 38, labourer, admitted February 9, 1860, with sciatica on right side, which had existed since October 1859. He walked, or rather limped, into the ward with both hands resting on a stick between his legs, dragging his right leg after him. Pain was increased by pressure over the nerve, from the lower leader of gluteus maximus muscle to the popliteal space. Ordered the atropine injection at bed-time, and a mixture of iodide of potassium.

10th.—The injection last night removed the pain; only an ache is experienced to-day, instead of the shooting pain of yesterday. Repet. inject. h.s.

11th.—Feels no pain or soreness whatever in the hip. Pressure even into the sciatic notch gives no pain, and he can walk with as much freedom and ease as before attack. He was discharged well on the 16th, seven days after admission.

CASE 5.—D. S.—, æt. 56, stone-mason, admitted February 9, 1860, with sub-acute sciatica of fourteen days' duration. Walked with difficulty even with the assistance of a stick; could not bear the pressure of a finger upon the nerve. He had also bronchitis of the larger tubes, accompanied with profuse expectoration. Ordered the atropine injection at night and a squill and henbane mixture for cough.

10th.—Cough less troublesome; the injection gave immediate relief; very little pain is now experienced even on pressure over the sciatic nerve, and he can walk without pain, but has a limp. Continue.

12th.—Has now no pain in hip even on pressure; walks well and with ease; cough better.

From this day to the 23d he was treated for his chest affection, being still free from pain in the hip. Discharged well on the 23d.

ART. 38.—*A new mode of applying Chloroform in Neuralgia, &c.*
By MR. LITTLE.

(*Edin. Med. Journal*, April, 1860.)

"During my residence in Singapore, East Indies," writes Mr. Little, "I was at one time in the habit of using liquor ammoniæ to produce an immediate blister, when instantaneous counter-irritation was thought necessary in certain cerebral affections, &c.,—a piece of lint

soaked in ammonia being applied to the part, and covered with oil-silk, when in a few minutes so much irritation was produced as to raise a blister. In administering chloroform to my patients, I noticed that their lips were often partially blistered by it; and recollecting the mode of using the ammonia, I thought of trying the chloroform in the same way, but found that neither oilskin nor gutta-percha tissue would answer. I then used a watch-glass to cover the lint soaked in it, and with the best effect.

"The manner of application is to take a piece of lint, a little less in size than the watch-glass to be used (which need not be more than two inches in diameter), to put it on the hollow side of the glass, to pour on it a few drops of chloroform sufficient to saturate it, and then to apply it at once to the part affected, keeping the edges of the glass closely applied to the skin by covering it with the hand, for the purpose of keeping it in position, as well as of assisting the evaporation of the chloroform. This may be done from five to ten minutes, according to the amount of irritation wished for.

"The patient during this time will complain of the gradual increase of a burning sensation (not so severe as that produced by a mustard sinapism), which reaches its height in five minutes, and then abates, but does not entirely disappear for more than ten minutes.

"To ensure the full operation of the remedy, it is necessary that the watch-glass be rather concave, that it be closely applied to the skin, and that the hand applied over it be sensibly warm. The immediate effect of the application is to remove all local pain in neuralgia, and relieve that of rheumatism.

"Its effects on the skin are at first a reddening of the cutis, which in some cases is followed by desquamation of the cuticle; but this depends on the part to which it is applied, and also upon the susceptibility of the individual. In some cases, if the application has been prolonged, a dark-brown stain remains even for a week or ten days, the same effect as sometimes follows the use of a mustard sinapism.

"In Singapore I have used chloroform after this fashion in various neuralgias of the face, in inflammations of the eye and ear, in one case of angina pectoris, in several cases of neuralgia affecting the abdominal parietes, in lumbago, dysmenorrhoea, and in pain attending congestion of the ovary, &c.

"Personally, I can testify to its great efficacy in two severe attacks of rheumatic inflammation of the eyes, in which the pain came on periodically about 3 a.m., with such severity that I thought the loss of sight itself would be preferable to its continuance. All other remedies, such as blisters, leeches, opium externally and internally, belladonna, &c., were of no avail in soothing the pain; water almost boiling applied by a sponge giving only a little relief. I then thought of this use of chloroform, remembering how much it had benefited my patients in other similar affections. The first night, the application of it to the temple relieved the pain in ten minutes; on its return the next night, the application again relieved it; and four times only was it required to remove completely the local pain; allowing, in the meantime, constitutional remedies to produce their effect. Since my return to this country I have recommended this remedy on several occasions to

persons suffering from neuralgia of the face and head, and always with the same good effects as in India; and the other evening one of my domestics was quickly and effectually relieved by it of a painful spasmodic contraction of the platysma myoides muscle, which prevented her raising her head from her chest. The chloroform was applied as directed, with immediate benefit, and next morning she was quite well, though in previous attacks several days elapsed before relief was obtained. I have mentioned this method to several medical men of this city, who have found it of great benefit; and that it may be more extensively known, is my reason for now bringing it before the profession."

ART. 39.—*Of Myositis, and its relation to certain cases of Dysphagia and Phlegmasia Dolens.* By Dr. INMAN, Physician to the Royal Infirmary, Liverpool.

(*British Med. Journal*, Feb. 4 and 25, 1860.)

A vast number of symptoms once supposed to indicate inflammation of internal organs, rheumatism, neuralgia, hysteria, and a variety of other diseases, in Dr. Inman's experience, are due in reality to painful affections of the fleshy or tendinous parts of muscles. In the present communications Dr. Inman gives further reality to his views by appealing to the condition of the muscles in tetanus, in a hunted hare, &c., and showing that over-exercised muscular fibres are actually ruptured, inflamed, or otherwise injured. He also argues, that *a process of inflammation once set up in any muscle from excessive exertion may extend to the parts in its immediate vicinity*, and applies this view to the explanation of certain cases of dysphagia and phlegmasia dolens. Dr. Inman's remarks upon the latter class of cases are especially interesting and conclusive. He is preparing first of all to show, that the iliacus internus and psoas magnus may be the seat of inflammation, and that there is reason to believe that such inflammation may extend to the pelvic veins:

"1. As I have only had my attention drawn to this subject very recently, my array of cases is small, and drawn from notes taken before I looked to the muscles to explain strange symptoms.

"When thinking over the motions of the body produced by the muscles in question, it occurred to me that they are employed a great deal in walking, stooping, leaping, running, and also in the action that may be inferred from the next remark.

"On turning to an account of colica scortorum, by Dr. Martin Hassing (reviewed in the 'British and Foreign Medico-Chirurgical Review,' Jan. 1851), we find that prostitutes are liable to a form of colic (abdominal pain) which is very apt to simulate *metropéritonitis*; that the tendency to the disease is fostered by irregularities of diet, exposure to vicissitudes of temperature, and continual excitement of the genital system (*i. e.*, frequent and excessive use of the iliæ and psoæ?). It is often brought on by the continued employment of vaginal injections (which involve the full use of these muscles in assuming the posture necessary to introduce the syringe). The

reviewer adds, that he has seen cases resembling colica scortorum in married ladies of hysterical temperament. The attacks seemed to have a spontaneous tendency to a favorable termination. Nothing is found in *post mortems* to account for the pain.

"On turning to my note-book, I find the following case:—Mary H., æt. 25, a prostitute, was admitted into the Northern Hospital with symptoms resembling peritonitis. She had a good deal of feverishness, with rapid pulse and breathing; but the tongue was clean and the bowels comfortable. The abdomen was everywhere acutely painful, but tolerant of steady pressure; and the left groin was swelled, and so exquisitely tender that she could not bear it to be touched. She lay with both legs flexed on the abdomen, and could not move them without pain. The woman was pale, sallow, and delicate looking, and, like most of her class, had been addicted to drinking. I felt completely puzzled by the case, for circumstances equally prohibited the idea of pure hysteria or of peritonitis. I ordered warm fomentations, an opiate thrice daily, and good diet. In about a week, the abdominal pain disappeared, leaving, however, the swelling in the left iliac fossa, which I now concluded to be in connexion with the ovary. In seven days more, however, this had disappeared, but too slowly to conclude that an abscess had burst; and, in a few days afterwards, the woman went out quite well. I remember the case very perfectly, and now entertain no doubt it was one of abdominal myalgia, with myositis of the iliacus. I made special inquiry as to whether it could be attributed to any violence, but was assured that none had happened.

"I have met with one case in which a patient was treated for ovaritis, but which was clearly due to standing too long over the wash-tub. The details were much the same as in the preceding case.

"I have met with others in which peritonitis and ovaritis have been considered as present after racing, washing, mangling.

"On turning to the article 'Ovaria,' in Dr. Copland's 'Dictionary,' I find a case recorded as 'ovaritis' in which it seems more philosophical to conclude that there was myalgia and myositis of the pelvic muscles from the lady travelling when not strong, rather than rheumatism from sleeping in a damp bed.

"These considerations are sufficient to suggest—I will not say to prove—that the iliaci and psœ are liable to myositis, and that such affections have sometimes been mistaken for inflammation of the ovaries or other deep-seated parts in the pelvis.

"2. Assuming that these muscles may be affected from the same causes and in the same way as others, we next inquire how this bears upon phlegmasia dolens.

"We premise (a) that swelled leg is due to 'obstruction' of certain pelvic veins; (b) that that obstruction commonly arises from extension of some inflammatory process from the uterus, ovaries, bladder, bowels, vagina, or rectum; (c) that it occurs, occasionally, in individuals who have nothing wrong with any of these organs; (d) that it is right to assume that the pelvic veins *per se* have no greater tendency to obstruction (from inflammation or other cause) than veins elsewhere; (e) that when there are signs of obstruction of the veins

and no signs of inflammation of any of the organs before alluded to, it is philosophical to assume that they have been implicated by inflammation of some other intrapelvic organ than those already described (such organ, we may presume, is the 'iliacus'); (*f*) that it is quite as rational to assume that the obstruction of the veins may have originated from a voluntary muscle (the iliacus) as from an involuntary muscle (the uterus).

"These premises being granted, we say—If it can be shown that swelled leg comes on after (proportionally to the strength) excessive use of the 'iliaci,' &c., and without any signs of inflammation of other intrapelvic organs, we may fairly attribute it to muscular inflammation extending to the veins.

"Before going into our own cases, we turn to authorities, and we find that when phlegmasia dolens occurs without signs of inflammation, &c., of the uterus, bladder, &c., it follows after walking or other exercise has been taken—*e. g.*, washing, mangling, scouring, &c. So far, there is *primâ facie* ground for us to go on. The next two cases, both of recent date, confirm this.

"The Rev. Mr. C—, æt. 45, had an attack of low fever, from which he slowly recovered. When convalescent from this, and after a long period passed in the house, though still languid, he was strongly recommended to take exercise in the open air. As long as he rode out, he had nothing to complain of; but the first time that he took a comparatively long walk, he was attacked with pain in the right calf, followed by 'swelled leg' and pain in the right iliac fossa, with inability to keep the limb extended. The skin was brownish red, instead of the ordinary white, waxy colour. There was tenderness over the groin, increased by deep pressure, and the thigh was kept flexed on the abdomen. There was much pain in the lower extremity; but no fever. Rest in bed, for a month, completely removed all the symptoms, without any special treatment. There were no signs throughout of any affection of the kidneys, intestines, or bladder, and the dependence of the complaint upon the walking exercise seemed well marked.

"Ann C—, æt. 29, unmarried, a very sallow, weak-looking woman, came into the Liverpool Royal Infirmary with general weakness, and swelling of the left leg. She was a charwoman, and had recently been occupied for some days in scouring the floors of large school-rooms. After her last day's work she had had feverishness, with intense pain in the lower part of the abdomen, which prevented her sleeping; and this was followed next day by swelled leg. As this did not at once subside, she came into the hospital. At that time, I did not recognise what the nature of the swelling had been, and thought the case simply one of myalgia of the leg, &c. A few days after her admission, however, she complained of tenderness in the right calf and in the right groin, and was unable to straighten the limb, which was kept flexed upon the abdomen, and I ascertained that the right lower extremity was in a state of phlegmasia dolens. She now assured me that the other had been precisely similarly affected. No special treatment was adopted, beyond rest and opiates.

The swelling subsided in three weeks, and the patient, who is slowly recovering her strength, will soon be fit to go out.

"In this case, there had been no previous uterine, vesical, or rectal disease, and no typhus, nor was there any evidence of such disease during the swelling. The cause seemed unquestionably to be over-exertion of the iliacus and psoas in the action of scouring, &c., involving long reaching, and recovery of the body to the old position, moving the knees along the floor, &c. In this, as in the last case, it is rational to suppose that there was—1, myositis; 2, extension of the inflammatory process to the veins; 3, resolution of the disease in both parts, and consequent recovery.

"If in these cases the obstruction of the veins were idiopathic venous inflammation, we can scarcely suppose that recovery could take place so soon, and we are driven to conclude that the circulation through the veins was impeded by pressure from without, rather than by obliteration of their calibre from internal effusion."

ART. 40.—A Case of extensive Paralysis treated successfully by Electricity and "Lingism." By D. EULENBURG, of Berlin.

(*Archiv für Pathologische Anatomie*, t. vii, p. 189, 1859.)

CASE.—Mélanie de Skeliska, æt. 15, three years ago, during a state of convalescence from typhoid fever, was twice attacked with general convulsions, without loss of consciousness. These convulsions continued for several hours, and left the patient completely paralysed, so say the parents, in the body and limbs. For this paralysis the baths of Wiesbaden, Wildbad, and other places, were tried without any beneficial result.

When Dr. Eulenberg undertook the management of the case, the patient was entirely unable to hold herself in a sitting posture, and when lying, her power of moving the limbs was extremely limited. The muscles of the trunk and limbs were all greatly wasted, particularly the muscles of the back; the latter muscles, moreover, refused to contract under the influence of electricity. Intelligence was unimpaired, and sensibility intact. The bowels would not act without powerful purgatives, but in other respects the health seemed to be satisfactory.

Faradization and "lingism," or Swedish gymnastics, was the treatment adopted. The paralysed muscles were faradyzed every day for ten minutes by one of Du Bois-Raymond's induction-apparatuses, and eight weeks passed before contraction began to be provoked by this means. The gymnastic séances were of two hours' duration, twice a day, morning and afternoon. At first the movements were extremely painful. The séances are not particularly described, but they seem to have consisted of passive movements and of regulated attempts to move on the part of the patient. The progress of the cure was extremely slow, and six weeks were spent before the power was acquired of lifting a foot from the ground; progress, however, must have been more rapid afterwards, for in five months from the commencement of the treatment the patient left the establishment perfectly cured.

Further particulars are needed to clear up a number of doubtful points in connexion with this case, but enough is said to show the advantages of the treatment adopted in a case which, under ordinary circumstances, would be regarded as well nigh hopeless.

ART. 41.—*Case of Tumour in the fourth ventricle of the brain.* By
Dr. ALEXANDER WOOD, President of the Royal College of Physicians of Edinburgh.

(*Edinburgh Medical Journal*, Jan., 1860.)

In this case post-mortem examination revealed the presence of a tumour lying with its apex in the fourth ventricle, covered on its sides by gray cerebral matter, the remains of the valve of Vieussens, and obstructing the iter a tertio ad quartum ventriculum. The bed of the tumour was formed at the expense of the floor of the fourth ventricle, especially on the right side, and of the corpora quadrigemina, the testes being entirely removed, and the greater part of the nates. It pressed upwards upon the sinuses in that situation, and must have caused some obstruction to the current of blood from the *venæ galeni* into the straight sinus. The tumour presented all the characters of medullary cancer.

The patient, then a young lady of sixteen, was first seen in 1851, complaining of general debility, but without any marked symptoms of disease. She soon acquired robust health under the use of chalybeate tonics and sea-bathing; her mental powers and vivacity were developed beyond her years, and her imaginative faculty was extraordinarily quick. Two years afterwards, it was noticed that her fondness for reading and the exercise of her intellect had given place to carelessness of her studies. In 1855, she suffered from amenorrhœa and general debility, the extent of which could scarcely be accounted for from the constitutional symptoms. In 1856, her sight began to be impaired, and she had not full power in directing the movements of her limbs. During all this time, and, indeed, through all her illness, she presented the picture of perfect health; the dimness of vision she ascribed to the reading of small type; the weakness of the limbs Dr. Wood hoped might be accounted for by the menstrual suppression. In March of that year, the symptoms became greatly intensified—there was decided dragging of the right leg, the eyes seemed prominent and staring, and rolled as if she had not the power of controlling their movements. Cerebral mischief, before suspected, was now positively diagnosticated by her physician.

In the summer of 1856, she was unable to walk unsupported; the pupils were dilated, and soon afterwards she was able only to discern light from darkness. She suffered from occasional convulsions; the intestinal canal became totally inactive, rarely responding to the action of powerful purgatives, and she was unable from this time, the summer of 1856, up to the time of her death, to pass a single drop of urine unless the excito-motory system was stimulated. The difficulty appeared to depend partly on the absence of sensation, or of the centripetal nervous influence in the bladder itself, and partly on paralysis of the abdominal muscles. Mental excitants, such as a fit of laughing, caused the urine to flow freely, and a like effect was produced by the dashing of water on the abdomen. Her mind continued active, and her memory became extraordinarily developed.

After several weeks of mitigation of the prominent symptoms she had decided prodromic evidences of meningitis, in December, 1856, as well as in July, 1857, both of which attacks were averted, however, by remedial agents. In October, 1857, she complained of noises in her head, like the ringing of bells or the rushing of a torrent, and visions of balls of fire before her eyes.

Yet her intellect was still astonishingly clear. A curious peculiarity was that she had, regularly on alternate days, her dark day and her light day—seeing black objects like coffins on the former, and flashes and balls of fire on the latter day. Her eyes would not, to a casual observer, indicate blindness. Her arms became paralyzed, and useless to her, and she lost flesh rapidly. As her physical sufferings became greater, her intellect and memory seemed to acquire wonderful strength. From the 3d of January, 1858, to the 8th (the day of her death), she suffered from excessive vomiting and intense headache, the pain recurring on one or two evenings at hourly intervals. On the 8th of January, the paralysis extended to the pharynx, and in the evening the muscles of the left side of her face became violently convulsed for nearly an hour. Her face had the appearance of perfect health, her intellect was quite clear, she directed the attendants where to place the local applications to her head, and had just asked that her lips might be wiped, when she died.

In this remarkable case, it is not a matter of surprise that general paralysis should have occurred, when we know how deeply the thalamus opticus was found to be implicated by the tumour. The pressure on the optic tubercles would account for the amaurosis, while the position of the fourth nerve, as regards the tumour, might account for the curious rotation of the eyeball. Perhaps the most remarkable point in the history of the case was the uninterrupted continuance of intellectual vigour, and increase of memory, and the absence of stupor until immediately before death, while we may find as much difficulty in explaining the curious regular alternations of vision—"the photopsic and chromopsic appearances" which Dr. Wood has well described. It may be remarked, in regard to the difficulty of micturition, from which she so long suffered, that strychnia, nux vomica, and the other so-called reflex stimuli, were totally inefficacious in restoring the power of emptying the bladder.

ART. 42.—*Case of Tubercle of the Brain in an adult.* By Dr. —.

(*Dublin Hospital Gazette*, May, 1860.)

The infrequency of tubercular disease involving the brain, except in young subjects, renders the case here recorded a remarkable one. Cruveilhier never saw an example of tubercle in the brain at the age in which it occurred in this case. Jones appears to have met with one instance out of 117 cases. Abercrombie gives one case at thirty-four years of age. In children, on the contrary, tubercle in the brain is a very frequent affection.

The situation of the tumour is another feature of interest. In children tubercles are met with in the nervous substance in different localities, most frequently, perhaps, in the cerebellum. But in this instance the tumour lay beneath the brain, and was unconnected with its substance; it exercised considerable pressure on the brain, but evidently originated without it. It was equally obvious that it did not spring from the dura mater which lay beneath it, and from which it could readily be separated.

From a careful examination of the tumour and the surrounding

parts, the author thinks it was developed in the substance of the ganglion of the fifth pair of nerves. Dr. Bright and others regard the gray neurine as the favorite nidus of cerebral tubercle, and the gray neurine of the ganglion may have been, in this instance, the seat of the deposit, which, as it enlarged, affected parts more remotely situated.

That the ganglion of the fifth nerve should be involved in a tumour of large size without intense suffering being the result is not what we would, *a priori*, have expected; but the degree of pain produced by a tumour would seem to depend not only on the position of the tumour among the parts on which it exercises pressure, but also on the *nature of the morbid growth itself*.

Cancerous tumours in the cerebellum excite, as a general rule, much pain. Scrofulous tumours in the same situation are as generally painless. A scirrhus tumour, involving the casserian ganglion, gives rise to *tic douloureux* in its most agonizing and irremediable form. A scrofulous tumour of the same size, in the same locality, may, as this case illustrates, give rise to very little pain, and to none of a specially neuralgic nature.

The protrusion of the eyeball in the case in question is a symptom difficult to explain satisfactorily. The author is inclined to think that it may be accounted for by the obstacle presented by the tumour to the return of the venous blood from within the orbit. The cavernous sinus was pressed upon, and consequently the ophthalmic vein and its tributaries were distended, as indeed the turgid condition of the veins of the upper eyelid indicated during life. The eyeball is so delicately poised in the orbit, between its antagonistic muscles, the obliqui and recti, that very slight pressure would disturb the balance, and cause protrusion. On the other hand, it may possibly have been the case that the nervous influence of both the third and sixth nerves was impaired, so that the power of all the recti and of the inferior oblique was diminished, in which case the undiminished and unopposed power of the superior oblique muscle would tend to draw the eyeball forwards. It is quite certain, however, that the characteristic symptoms of paralysis of the third pair of nerves *alone* did not exist, neither was there complete paralysis of the recti muscles, for the patient throughout retained the power of directing the eyeball in different directions. Whatever be the true explanation of this symptom, it may be worth recording that exophthalmia did, in this instance, exist, as a symptom of intra-cranial tumour, and that there was no prolongation or extension of the tumour into the orbit which could explain its occurrence.

CASE.—Patrick D—, a labourer, æt. 33, and a strong, healthy-looking man, applied on several occasions at the Whitworth Hospital, complaining of uneasy sensations, and sometimes of pain in his head. Occasionally he had vertigo and impaired sensation in his hands and fingers. Blisters to the temples and behind the ears, with purgatives, generally gave him relief. On the 17th March last, feeling much worse, he asked to be admitted into the hospital, and was accordingly taken into No. 1 ward. The man's appearance was greatly changed, he was much thinner, and had now a dull heavy look. He complained much of pain in his head and of weakness of his limbs. He

answered questions very slowly, but always correctly. A few days subsequently he had become more listless; he had to be spoken to loudly, and a question had to be repeated several times before he comprehended what had been said. He walked with a staggering, uncertain gait, like that of one inebriated, and complained less than he had done some days previously. Having been freely leeches and mercurialized, a slight improvement was observed, but which quickly passed away, and a fortnight after admission his condition was altogether very remarkable. A lethargy more profound had crept over him; he slept much by day as well as by night. He never made any complaint, or mentioned any of his original symptoms, and remained always in bed. He now ceased to ask for his food, nor did he seem to feel hungry. When fed with a spoon, he swallowed the food and seemed to like it; but when food was placed in his hand, he never attempted to eat it. There was no paralysis, but the muscular power generally was impaired. He used both hands freely, and was able to walk. When taken out of bed, he would stand wherever he was placed, and only walked when he was led or pushed forwards. The pulse was rather slower than usual; the respiratory motions markedly slow, and he sighed often and deeply. At this period the left eye was observed to become unnaturally prominent—the advance of the globe, at first slight, in a few days became more decided; the upper eyelid had an elongated appearance, and was of a darker colour, whilst the vessels of the lid became large and turgid. No tumour could be felt on pressing through the lid, and the motions of the eyeball were unaffected. The iris was not paralysed, the pupil contracted sluggishly, but this was equally the case on the right side. No material change occurred from this period; the patient seemed to become, if possible, less conscious of what went on about him, and at last nothing more than monosyllables could be extorted from him in reply to repeated questions. Both urine and fæces were now passed involuntarily. How long this patient might have lived in this condition, had no other disease supervened, it is difficult to conjecture.

The functions of relation were, no doubt, in abeyance; he had ceased to hold any communion with the world around by means of speech or locomotion. He was like a hibernating animal, with this difference that he retained the undiminished power of evolving animal heat; but his condition more strikingly resembled that of the pigeons, whose central hemispheres Flourens had removed. Like them, he was plunged into a profound lethargy.

Capable indeed of performing automatic movements, but not capable of executing any connected or intelligent actions, nevertheless the functions of organic life were unaffected, his wants were attended to, he was regularly fed, and nutrition was maintained.

However, on the 14th of April, a diphtheritic exudation appeared on the fauces, the breathing became difficult and swallowing impossible, and death ensued on the 17th of April.

Post-mortem Examination.—A lobulated tumour, as large as a pigeon's egg, occupied the middle fossa of the base of the skull on the left side, which it filled completely, extending inwards to the side of the body of the sphenoid bone.

The cavernous sinus was encroached upon and compressed, and the nerves in the outer wall of the sinus were more or less involved in the tumour. The third pair, however, could be dissected off its upper surface.

The ciliary ganglion was involved in the tumour, its filaments spread out, and not separable from it. The tumour, which on the surface was vascular, and of a grayish colour, presented all the appearances of a scrofulous tubercle when cut into, part of it consisted of yellow crude matter, imperfectly lami-

nated, the rest had broken down into a semi-fluid mass, in which pus could be easily distinguished. The dura mater beneath it was unaffected, the middle lobe of the brain which lay on the upper surface of the tumour was deeply indented by it, and still more deeply softened and disintegrated.

The rest of the brain was healthy; no trace of tubercular development could be found in any other organ; even the lungs were free from the smallest deposit.

ART. 43.—*Case of Medullary Fungus of the Pineal Gland, with relatively trifling symptoms.* By Dr. ———

(*Dublin Medical Press*, March 23, 1860.)

This interesting case is translated from the 'Geneeskundige Courant,' of 25th December, 1859, by Dr. W. Daniel Moore.

CASE.—"H. B—, a married man, æt. 35, of rather weak constitution, fine skin, and fair hair, had previously enjoyed good health, and had always followed his occupation as labourer with pleasure and energy, when a year and a half ago, the head of a hammer separating from the handle struck him violently on the head, at the left side of the forehead, above the eyebrow, producing much contusion with subsequent swelling; he did not, however, apply for medical aid, and we were not informed of the injury he had met with until the day before his death. After the accident he began gradually to manifest less aptitude for his work, complained of periodical headache, and changed to a completely melancholy disposition, so that his master, who otherwise valued him highly, began to think of dismissing him from his service. B— was now seized with violent illness, which his relatives called typhus, but of which nothing more can be ascertained than that an abscess formed at the right side of the chest, under the clavicle, which was twice opened with a knife, and each time discharged a large quantity of pus. After his recovery from this illness he resumed his ordinary work, but did so little at it that he anticipated his master's intention and of his own accord, as it were secretly, left his service. Signs of an affection of the brain now slowly set in—namely, dullness of his mental powers, combined with incomplete paralysis of his limbs, incontinence of urine and fæces, which phenomena, however, varied in degree, so that at one time he could run and use his hands tolerably well, while at another he could neither stand nor walk, and required assistance in everything. After having been treated in vain by the local physician, he was sent to the hospital at Utrecht, whence, however, he was speedily removed to the institution for the insane, his affection having been looked upon as mental.

"On his admission into the asylum his state was as follows:—He looked tolerably healthy and in good condition, his extremities in general were incompletely paralysed; his speech was very defective in consequence of the difficulty of finding words, which were always articulated with an effort; without general delirium, he manifested in his behaviour proofs of confusion and false conceptions. There was occasional but not constant incontinence of urine and fæces; his appetite and sleep were good; his excretions regular; respiration and pulse normal; the state of the eyes and width of the pupils were the same on both sides; his disposition was quiet; he did not complain of pain or of any other morbid feeling; he exhibited an extreme degree of indifference as to his state; there were no other objective signs of any definite cerebral lesion.

"From the 1st of October, when he was admitted into the institution, to the 14th of December, he survived, presenting the same symptoms. He was treated by cupping in the nape of the neck, with a decoction of *secale cornutum* internally, the latter being prescribed chiefly on account of the incontinence of urine. This treatment was not, however, attended with any perceptible change in his condition. The alternation of improvement and relapse, chiefly exhibited in the greater or less intensity of the paralytic symptoms, which affected principally the left side, continued. On the 14th of December, after a very quiet night, free from any incontinence, his state appeared satisfactory, his mind was tolerably collected, and he answered our questions, although his manner was always confused, with some clearness, but it was evident that his memory had greatly failed. Thus he could give no explanation of the scar on his chest, though he gave some of that which we discovered on his forehead, and which had somewhat the appearance of an exostosis; while, at the same time, he seemed to have forgotten that he was married. And before dinner, after having walked in the garden, he bent his head when placed at the table, and fell forward, supported on his right hand, and suddenly expired with symptoms of apoplexy.

"*Dissection twenty-four hours after death.*—The body in general presented no phenomena worthy of mention. After removing the galea aponeurotica, however, the bones of the skull, particularly the *ossa bregmatis*, exhibited an unusually dark colour, tending to red. The *dura mater* was tolerably firmly adherent to the cranium. Its arteries and veins were, on the surface, very highly congested, and the blood, on opening the sinus, flowed out of a dark colour. The convulsions of the hemispheres were much flattened and were extremely dry (which gave them the appearance of wax casts), without the slightest trace of serum between the arachnoid and *pia mater*; in the cavity of the spinal column, however, there was a very large quantity of spinal fluid, which washed the *medulla oblongata*; the *glandulæ Pacchioni* on the surface were not unusually developed. The *pia mater* was difficult of separation, particularly in the middle and superior part, but did not remove any laminae of the brain with it. There was no trace of meningitis. The cortical substance, which everywhere presented a rather high colour, particularly on the anterior lobe, under the *os frontis*, after washing with water, was somewhat more of a rose colour than the other parts, while the white substance exhibited none of the well-known dots of blood. The cerebral vessels on the surface contained but little blood. On cutting down into the ventricles it appeared that the *pia mater* investing them was very much thickened, so that the white cerebral substance could easily be separated from it, and it required some pains to cut through it. On opening the right rather dilated ventricle, whence a considerable quantity of clear serum flowed, we came on a rather long vesicle, studded with some dark-brown vesicles, immediately under the fornix and great commissure, in the situation of the foramen of *Monro*, which here appeared to be largely dilated; the length of the vesicle, from before backwards, was five and a half centimètres (a little more than two inches); on the right side the corpus striatum and thalamus were apparently healthy, somewhat pushed to the side, the walls of the vesicle passed uninterruptedly into the walls of the ventricles, so that it appeared that the *pia mater* which lines these cavities internally also invested the vesicle.

"At the level of the great commissure the cerebral mass expanding over the left ventricle appeared to be much more swollen; the investing membrane was here much denser and thicker, and could not be torn without difficulty. On opening the ventricle much bloody serum escaped, contrasting with the

right cavity, where the serum was clear. The cavity of the anterior left cornu was about as large as a duck-egg, and was filled with recent coagulated blood. It now appeared that the vesicles in the right cavity were connected with those in the left, as they were full before the opening of the left ventricle, but collapsed after it. About in the situation of the thalamus under the fornix was a bloody, yellow, soft substance, presenting the appearance of medullary fungus coloured with blood. The vesicle in the right cavity was covered with a membrane composing the lateral wall of the septum lucidum and passing into the investing membrane of the ventricle; so that also anteriorly the wall of the vesicle passed into the investing membrane of the cornu anticum.

"The left ventricle was, as has already been mentioned, much more distended, owing to the presence of an abnormal, medullary body; it was partly filled with coagulated blood, which was also separately effused in several parts of the tissue; on the left side, the sac extended into the cornu posticum, to the commencement of the calcar avis, covered by an organized membrane; which again was connected with the walls of the ventricles, and was uninterruptedly continued into them; on accurate examination, after the brain had been for a couple of days left to harden in spirit, it was seen, by lifting up the posterior portion of the corpus callosum, that the abnormal body was continued backwards through the very dilated third ventricle, and here terminated, just in front of the corpora quadrigemina, which were more or less flattened, and that the tumour consisted of a degeneration of the pineal gland. This was reduced to a matter of certainty by the microscopic examination made by Professors Schroeder van der Kolk and Harting; thus in the tumour, even on a level with the corpora striata, the peculiar conglomerations were found constituting the so-called cerebral sand, which was here present in great quantity as mulberry-like granules, and is distinguished from the sand in the choroid plexuses, which always exhibits spherical globules. The choroid plexus in each ventricle was normal, and was not connected with the tumour; the tumour itself appeared under the microscope to consist chiefly of granular cells of the size of blood-corpuscles, from which, however, they were plainly distinguished by their granular contents, their unequal and mostly oblong form, without any defined nucleus; these cells were everywhere, both on the surface and the investing membrane and within the tumour, exactly similar, and between them were capillary vessels arrayed in a reticulated form, and connective tissue—nerve fibres were not to be distinguished with certainty. Hence it follows that the tumour consisted of a cellular augmentation of the pineal gland, which must be regarded as medullary fungus with sanguineous effusion, and therefore also as fungus hæmatodes. The cerebellum was healthy, the posterior commissure was normal, the cavity in which the pineal gland is situated was, in this instance, invested as with a membrane, and the third ventricle was very wide, being dilated to twenty-six millimètres (a little more than an inch). Above the corpora quadrigemina there was also coagulated blood, the corpora quadrigemina were somewhat flattened, the enlarged pineal gland thus seemed to have pushed forwards, to have dilated the third ventricle to an extraordinary degree, and thus to have pressed into the anterior cornua of the lateral ventricles, particularly on the left side, without having produced any other degeneration of the brain than was caused by pressure and distension. Thus, particularly in the left cornu anticum, the cerebral mass was very much wasted by the distension, the distance from the left cornu anterius to the anterior convolutions amounting to scarcely more than $1\frac{1}{2}$ centimètre—

Antero-posterior measurement of the tumour, in the left					
cornu	...	...	...	...	8½ centimètres.
In the right cornu	...	...	...	...	5½ "
Breadth of the <i>left</i> cornu	anticum	above	the	corpus	
striatum	...	...	...	...	6½ "
Of the <i>right</i> striatum	...	...	...	...	3½ "
From the cornu anticum	to the	<i>right</i>	postic	...	11½ "
"	"	"	<i>left</i>	"	13 "
Breadth of the third ventricle	...	...	...	...	26 millimètres.

Of the winding of the lobi postici around the genu of the corpus callosum, above the fourth ventricle, 4½ centimètres."

ART. 44.—*A rare case of Paralysis, with observations on "induced Paralysis."* By Dr. OGLE, Assistant Physician to St. George's Hospital.

(*Proc. of Roy. Med. and Chir. Soc.*, June 28, 1859.)

In this communication, after prefatory allusions to the general subject of the production of motor paralysis from injury or disease of the corresponding side of the brain, in contradistinction to a crossed paralysis from an affection of the opposite side of the brain, the author goes on to relate a case of aneurism of the left anterior cerebellar artery, so placed as directly to press upon the anterior surface of the middle crus cerebelli on the left side, and implicating, although to a very slight degree, the superficial part of the neighbouring pons varolii, &c. The apparent root of the fifth cranial nerve, on the same side, was also pressed upon by the aneurism; and the seventh nerve, in its forward course towards its exit from the cranium, was greatly pressed upon. The other cranial nerves, excepting the optic nerves, were unaffected.

The specimen was removed from the body of a middle-aged woman, who had been epileptic, and had lost her sight for five years. She also suffered from partial loss of muscular power on the left side of the body, and contactile hyperæsthesia of the skin on the left side of the face and head; and, impairment of the senses of smell, taste, and hearing on the left side.

The chief point of interest in the case was the existence of paralysis, more or less incomplete, of the muscles of the limbs on the side of the body corresponding with the cerebral pressure; but besides affording an illustration of the existence of such an anomalous form of hemiplegia, the case is exceedingly interesting as being an instance in evidence of the statement lately established by Dr. Brown-Séquard, that when pressure is made on the anterior surface of one of the crura cerebelli, without materially injuring neighbouring structures, the paralysis produced (if any be caused) will be almost invariably of the muscles on the *corresponding* side of the body.

Dr. Ogle points out at length the coincidence, in his case, between the interference with the sensibility of the skin, the power of the moving muscles of the jaw, and the sense of taste, on the one hand, and the pressure upon the fifth cranial nerve, on the other, and again

between the deafness and facial paralysis, and the injury to the seventh pair of nerves.

The author considers, at some length, the probable causation of the paralysis existing on the same side of the body as the cerebral lesion—a form which Brown-Séquard looks upon as being owing, not to any absence of action, but to some kind of irritation, of "excess of action," reflected, as he states, to some central or conducting part of the nervous system from the particular part primarily affected. Dr. Ogle, whilst recognising this method of explanation, suggests the term "induced" paralysis as being one more clearly conveying the meaning intended to be given by the word, and as being less likely to be misunderstood than the expression "sympathetic" or "reflected" paralysis, which Dr. Brown-Séquard has applied to this form of paralysis.

ART. 45.—*A Case of new formation of Cerebral Matter.*

By Dr. C. FÜNGEL, of Hamburgh.

(*Archiv für Path. Anat.*, Bd. xvi, h. 1, 2; and *Med.-Chir. Review*, Jan., 1860.)

CASE.—A female, æt. 31, was brought into the Hamburgh Hospital on the 26th November, 1858, in a state of sopor; she only gave short replies when repeatedly questioned, and without having understood the questions; she occasionally uttered brief exclamations. When attempts were made to open the eyes, she closed them convulsively; attempts at moving any of the limbs were resisted, but this was easily overcome, except the spasmodic contraction of the right hand. There was a dislocation of the right arm inwards. Respiration was accelerated, but no disease could be discovered in the lungs. As the patient was considered to be moribund, no treatment was adopted, except the application of a blister to the chest. She died six hours later, and it was afterwards ascertained that she had been subject to dislocation of the arm, that she had been indisposed and peculiar in her manner for four weeks previously, during which time she had been seen only once by a medical man, who considered her hysterical. There were various rickety distortions in the trunk and lower extremities. The vessels of the dura mater and pia mater and the cerebral tissue contained much blood; the arachnoid was not opaque, and there was a considerable amount of reddish watery exudation under it. The lateral ventricles contained a little fluid of the same kind. At the point where the upper wall of the lateral ventricle bends down, there were, on the outer side, between the middle and end of the posterior horn, several hemispherical tumours projecting into the cavity, varying in size, and on section apparently identical in hue and consistency with gray cerebral matter. These deposits extended into the medullary tissue, so as to form circular tumours, which were separated from one another by intervals of white matter. The deposit was greatest at the end of the posterior horn, and here the consistency of the brain was most developed. Both lateral ventricles presented the same appearances. There was no other abnormality in the brain. The microscopic examination of the new formation exhibited a fine granular mass with granular cells; nerve-tubes were not seen. From the remainder of the autopsy, we merely note that the uterus was divided into two compartments by a septum, that there were two cervices and two vaginæ, with a single circular hymen.

ART. 46.—On the importance of Free Respiration in certain states of the Brain. By Mr. W. C. HUNTER.

(*Lancet*, Feb. 4, 1860.)

The necessity of attention to the respiration is held to be chiefly of importance—1st, in coma, from injury or disease, sanguineous or serous; 2dly, in narcotism of the brain; 3dly, in epilepsy; 4thly, in certain functional cerebral derangements, where a tendency to headache and lethargy exists.

The strictly anatomical connection of the lungs with the brain having been alluded to, it is shown how, pathologically, disease of either of these organs might kill by its effects upon the other.

1st. Cases of coma from cerebral injury and apoplexy are then cited, illustrating how death generally takes place by apnœa, the practical point being indicated that life might not only be prolonged but saved by attention to the respiration, even in cases apparently the most hopeless.

2d. In narcotism. The greater the insensibility of narcotic coma, the more the respiration is affected; the more therefore the case requires to be watched. Coma and narcotism both kill by the lungs; but several points of difference are known to exist between the apnœa of coma and that of narcotism. In the apnœa of coma, death is not generally (or at all events primarily) due to cessation of respiratory action—i. e., muscular paralysis, but to lung paralysis, evinced by extreme and rapid congestion of the lungs, accompanied by rapid effusion into the pulmonary air-cells and bronchial tubes. The death is apnœa by effusion, unless it can be warded off. The treatment for the apnœa of coma is venesection, to relieve the congestion of the lungs, and prevent its further formation; but more especially important is the prone position (the prenopnœa of Dr. Marshall Hall), by which an enormous amount of bronchial effusion may be got rid of. Without the prone position, the bronchial effusion may so accumulate that the patient with coma may, in reality, die of narcotism from non-eliminated carbonic acid gas. Artificial respiration may not be necessary. A case of apoplexy of the medulla oblongata and one of compression from injury are related, in which no muscular paralysis existed. In the apnœa of narcotism there is neither the rapid effusion nor the great congestion of coma; but if death ensues, it is chiefly from musculo-respiratory paralysis. The pulmonary congestion is less than in cases of coma, for the narcotic influence diminishes the strength and frequency of the cardiac pulsations, which are unrestrained in coma. In the treatment of narcotic apnœa, venesection is not necessary, nor is prenopnœa, to remove effusion, but it is especially necessary for a different reason—viz., lingual paralysis. Artificial respiration is here invaluable. If employed, however, without attention to the tongue, it may be useless.

3d. In epilepsy. The normal state of the respiration is a point in the etiology of this disease requiring, in the author's opinion, careful consideration. Many epileptics have a shallow, contracted, and feebly-acting chest, which predisposes to and must keep up the epileptic tendency. Several patients were alluded to whose respirations were

not only very limited in amount, but in number also, being less than one to four cardiac pulsations. This feeble lung action acts injuriously to the epileptic in a two-fold way: it tends to retain carbonic acid in the blood (to which gas many of the symptoms peculiar to the epileptic, besides the seizure, seem attributable); and also prevents the lungs acting freely as diverticula to the cerebral circulation.

4th. Amongst the functional cerebral derangements are mentioned headache and lethargy, which free respiration in the open air would often remove; also cases in which respiration would sometimes, without any warning, become extremely difficult (as if from sudden deprivation of nervous influence): in such cases, fresh air, the inhalation of ether and ammonia, and deep inspirations (forced, if the patient can effect them, assisted, if not), appeared to the author to be indicated, and were productive of great benefit in these conditions.

ART. 47.—*Observations on Stertor, and on the varying conditions upon which it is dependent; with the treatment necessary for its relief.*
By Mr. R. L. BOWLES.

(*Proceedings of Royal Med. and Chir. Soc., Jan 24, 1860.*)

The author commences by stating that in the majority of instances, he has found, from experiment, that stertor arises from one of three conditions—1st, from paralysis of the velum palati; 2d, from the paralysed tongue lolling back in the throat; 3d, from the presence of mucus in the pharynx and air-passages. His attention was first attracted to this subject when assisting Dr. Marshall Hall in elucidating the subject of artificial respiration on the dead body. It was found that the position of the body invariably influenced the relations of the tongue—namely, that in the prone position it fell forwards and away from the pharynx; whereas, when the body was supine, it fell back towards the pharynx, and would form a serious obstacle to the passage of air into or out of the trachea. It was also observed that mucus or fluid ejected from the stomach tended to drain away in the prone position, and to remain in the back of the pharynx in the supine; and this would greatly increase the danger of apnoea in the latter. In November, 1857, Mr. Bowles was called to a case of apoplexy, in which coma and stertorous breathing had persisted for some hours. The patient was wholly unconscious and uninfluenced by external impressions, and the pupils were contracted and immovable. Whilst watching the case, some fluid was ejected from the stomach, which lodged in the pharynx, and would have caused death by suffocation had not the patient been quickly turned on her side, and the fluid allowed to drain away. In this position the stertor entirely ceased, but on resuming the supine position it returned as loudly as before. The experiment of change of posture was tried several times, and always with the same result; and, what was equally remarkable, the general symptoms were greatly modified after the lateral position had been maintained for a few minutes; the pulse became calmer, the skin cooler and less bedewed with moisture, the eye sensible to the touch; and the general sensation returned to such an extent that the patient evinced

signs of discomfort at the removal of a mustard poultice. In a case of epilepsy in which stertorous breathing had supervened, the moment the lateral position was assumed the stertor ceased, and the patient very soon became conscious, and recovered. Other cases were related, all of which tended, with the foregoing, to demonstrate—1st, that the paralysed tongue *may*, under certain circumstances, cause even death by suffocation; 2d, that stertor arises from the tongue falling back in the supine position of the body, so offering a serious impediment to the respiration; 3d, that mucus (another respiratory impediment) drains away when the patient is placed on the side; and 4th, that great improvement of the general symptoms follows the establishment of easy breathing in the lateral position. The anatomy of the parts is then referred to; and it is shown that the pharynx, having only a fixed boundary posteriorly, may have its capacity materially altered by the ever-varying positions of its sides, of the soft palate, the tongue, and the larynx. With the closed mouth, the tongue cannot, in the majority of cases, reach the back of the pharynx, as it is fixed to the inside of the symphysis of the jaw; but when the jaw drops, the symphysis describes the arc of a circle, and approaches very nearly to the spine, thus allowing the tongue to come into contact with the posterior wall of the pharynx. Diagrams of some dissections are given, to illustrate the position of the tongue and epiglottis in the various positions of the jaw and of the body. If the chin be bent upon the sternum by raising the head with pillows, the tongue will lie in dangerous proximity to the pharynx, even if the mouth be closed. Stertor is divided by the author into the three following varieties:—1st. Palatine stertor. In this, if the mouth be closed, the soft palate is pushed upwards and backwards by the base of the tongue, and thus narrows the opening between the palate and the posterior wall of the pharynx. If the mouth be open, the velum palati drops upon the tongue, and vibrates as the air rushes between it and the tongue. 2d. Pharyngeal stertor, which is the most frequent in apoplexy, and by far the most dangerous. This variety depends upon the base of the tongue dropping back into the pharynx, and acting as a serious impediment to the passage of air; it occurs when the mouth is wide open, and is a harsher and sharper noise than either of the other varieties. 3d. Mucous stertor, which depends upon the presence of mucus in the bronchial tubes; it may exist alone, or in combination with either of the preceding varieties. A case is related, to show that palatine stertor, with closure of the mouth, may accompany deep coma; but it is considered that it is the rule for persons in deep coma to breathe through the mouth, and for this reason: the muscles of the jaw being paralysed, the jaw drops and opens the mouth; whereas, the dilators of the nose being also paralysed, the *alæ nasi* are forcibly drawn by the in-going air towards the column of the nose, and thus close the orifice of the nares altogether. With reference to the importance of stertor, the author remarks that the impediment to the entrance of air into the lungs, as it tends to retard the flow of blood through the veins, might very possibly be the first step towards death in cases of apoplexy with degeneration of blood-vessels, or fracture with laceration of the sinuses or vessels of the brain; for

the blood would make its way, where there was least resistance, through the wounded or ruptured vessel. If, however, there were no obstruction in its natural course, it would more probably follow that, than turn aside through an opening, in which perhaps a coagulum had already formed. Besides the ultimate dangers which might result from a persistence of stertor in apoplectic and similar conditions, the more immediate dangers of the supine position are pointed out—*e.g.*, 1st. Fluids or other foreign matters making their way into the larynx from the mouth or stomach; 2d. The falling back of the tongue, causing sudden and complete apnœa, which may occur in all cases of paralysis, whether from syncope, apoplexy, concussion of the brain, chloroform poisoning, suffocation from carbonic acid or drowning; for if a disaster arise from any of the above conditions, the patient is almost invariably laid flat on the back. The paper concludes with the relation of a case, by Mr. Lewis, of Chester, of profound coma supervening upon several severe attacks of epilepsy, following each other in quick succession. When the patient was seen, the pupils were contracted and insensible; the pulse small, weak, and irregular; the surface pale, with cold, clammy perspiration; breathing irregular, slow, and extremely laborious. The stertor was very marked; very little air seemed to enter the lungs; the cheeks were puffed out during expiration. The patient was placed well over on his side. There was an immediate flow of saliva from the mouth, followed by a considerable quantity of sanio-mucous fluid. The breathing instantly became more free, and in less than a minute all stertor had ceased. The other symptoms gradually subsided, and in an hour's time, the bowels having been acted on by croton-oil, there was a partial return to consciousness, and the next day the patient was walking about the wards of the Asylum.

ART. 48.—*Case of Hydrophobia successfully treated with drachm doses of calomel.* By DR. JOHN E. H. LIGGET.

(*Amer. Jour. of Med. Sciences*, Jan., 1860.)

The large doses of medicine used in this case were resorted to partly in consequence of the known insusceptibility to the action of medicines in hydrophobia, and partly because the rapidly fatal character of the disease leaves very little time for making any impression on the system; and the patient was bled in order to promote the more rapid absorption of the mercury. Dr. Ligget was led to give calomel in large doses in the case under consideration by his experience of their beneficial action in spasmodic cholera.

It appears that a case of hydrophobia was reported in 1811 by Mr. Tymon, a surgeon in the East Indies, as having been cured by *large abstraction of blood*. The writer says, "I began by bleeding until scarcely a pulsation could be felt in either arm;" but he adds, "opium was afterwards given, and the patient *salivated with mercury*."

CASE.—On Monday, the 16th July, 1851, I was requested by George Mearing,

Esq., of Bruceville, in this county, to visit his coloured girl, Maria, aged about 20 years, whom he supposed to be labouring under the above disease. On my way to Mr. M.'s he gave me the following history of the case: Some sixteen or eighteen days previously, this girl, with his little son, eight or nine years of age, was in the yard teasing a young dog that had been unusually dull and morose for a day or two. Whilst holding her naked foot towards him, the dog snapped her in the great toe, and immediately sprang at the child, whom he seized by the arm. The girl ran at once into the house with the child, whose cries quickly alarmed the family. Upon removing the clothing from his arm, the indentations of the dog's teeth were distinctly visible, but the skin was unbroken; and as the girl said nothing of the dog having snapped her, Mr. M.'s fears were quieted. He at once had the dog chained in an out-house, where, in two or three days, he died with all the symptoms of *rabies canina* in its most virulent form. Some three days before I was called, Maria complained of pain in the great toe, extending up the limb towards the body; at the same time, from being a very lively girl, she became dull, moody, taciturn, and irritable. Upon being closely pressed by her master, she confessed that the dog had seized her by the toe, and that one of the tusks had penetrated *between the nail and the flesh*, and had drawn blood. Becoming alarmed, Mr. M. went to Littlestown, Pa., to procure a nostrum (prepared by a noted empiric), which enjoys much celebrity as a *prophylactic* in this disease. Upon procuring the article, he was told by the "doctor" that, if the disease was near development, she might, whilst taking the medicine, have *one or two "fits,"* which need not alarm him, as it would indicate that the remedy was producing a "proper effect." He must persevere, and she would soon be relieved of all unpleasant symptoms. Upon returning home he found the girl worse, and she now complained of pain in the epigastrium, with slight stiffness of the muscles of the neck. He gave the medicine according to directions, and sure enough, after several hours, she had a "*fit*;" after some time another, and again another. He, however, persevered until the following morning, when the medicine had all been taken, and the spasms were increasing, frightfully, in frequency and violence. He then called on me for assistance. I found her condition to be as follows: Her mind is clear, and she is conscious of the approach of the paroxysms, of which she usually gives notice. Countenance anxious and despairing; pain in the epigastrium, radiating towards the spine. Stiffness of cervical muscles increased. Urgent thirst, with *inability to swallow fluids*, which are immediately ejected from the mouth with great force. The tongue is white. Pulse 90, and rather tense. Respiration natural, except during the paroxysms, when it is hurried and laborious. There is *increased salivary secretion*, and she occasionally expectorates, with violence, small quantities of viscid mucus, which appears to be thrown from the fauces. The convulsive paroxysms are frequent, and can at any time be excited by touching her, by a current of air, or by the sight of water or other fluids.

I told her master that the disease was, undoubtedly, hydrophobia; that it had uniformly proved fatal under all known systems of treatment, and that as I proposed to pursue a course he might deem hazardous, I should prefer, before commencing it, to have my *diagnosis* fortified by the opinion of another physician. After requesting that Dr. Swope, of Taneytown, might be sent for, I scarified and cauterized the toe, directed counter-irritants to the spinal column and left her.

5 o'clock p.m.—Dr. Samuel Swope saw the case with me. We found the paroxysms still increasing. Morbid sensibility of surface excessive. Thirst

so greatly increased that she now calls constantly for water, the sight of which excites great horror and immediate spasm. In the intervals complains of pain in the head. Intellect still clear. Pulse 105, tense. Heat of surface somewhat increased. After a careful examination of the case, Dr. Swope concurred in my diagnosis. He also assented to the plan of treatment I proposed, though without any hope of averting the fatal result he anticipated. She was now bled to the amount of thirty-six ounces, and ordered Hydrarg. Chlor. Mit. $\mathfrak{z}\mathfrak{j}$, to be repeated every *four* hours if the symptoms remain unabated. If the spasms decline in frequency and violence, the intervals to be lengthened to *six* or *eight* hours.

17th, 8 o'clock a.m.—After the exhibition of the calomel last evening she had *one* spasm, after which the spasms ceased until two o'clock this morning, when they returned with much violence. She then took $\mathfrak{z}\mathfrak{j}$ Hydrarg. Chlor. Mit., and had an enema administered (which produced but slight effect), after which the spasms again ceased. She is now, 8 o'clock a.m., lying quiet, though in other respects her symptoms are nearly as they were yesterday evening. Ordered a drachm of calomel, to be followed by an enema of Ol. Terebinth. Thirst to be quenched with spoonfuls of *crushed ice*, which she swallows with difficulty, her eyes being closed to avoid the sight of it. She is to be kept perfectly quiet in a darkened room, and all causes of irritation carefully avoided.

5 o'clock p.m.—The bowels have been moved moderately, dejections nearly natural. She has been free from convulsive paroxysms until within the last hour, when they returned, but with less violence. R—Hydrarg. Chlor. Mit. $\mathfrak{z}\mathfrak{j}$, to be repeated in eight hours should there be any return of spasm. Continue *ice ad libitum*.

18th.—Could not visit the patient this morning, but learned from Mr. M. that she had rested quietly since the last dose of calomel. Directed ice to be continued, and the bowels to be moved by enema, Ol. Terebinth.

4 o'clock p.m.—No return of convulsion since last report. Bowels have been freely moved by enemata, dejections green. Pulse 108, small. Tongue heavily coated. Some heat of surface. Complains of burning pain in epigastrium, with tenderness on pressure. Thirst still considerable, but dread of fluids and inability to swallow them continue. Symptoms of approaching *ptyalism*. R—Epispast. to epigastrium, and continue ice.

19th, 3 o'clock a.m.—Patient had a slight spasm yesterday evening shortly after I left, which recurred in half an hour, when her master gave her Hydrarg. Chlor. Mit. $\mathfrak{z}\mathfrak{ss}$, which quieted her till two o'clock this morning, when she complained of violent spasmodic pains in the jaw and inferior extremities, when I was sent for. Ordered Tr. Opii $\mathfrak{z}\mathfrak{j}$, to be repeated if necessary. Repeat enema.

5 o'clock p.m.—Rested from the effects of the opiate until one o'clock this afternoon, when, complaining of some pain in the jaw, she took Tr. Opii $\mathfrak{z}\mathfrak{ss}$, which gave her speedy relief. Blister has drawn well, and greatly relieved the burning at the stomach. Mouth getting decidedly sore. She can now begin to swallow fluids, though with difficulty. Asked for food, and took a little corn gruel. As the bowels have not been opened since last evening, give her Ol. Ricini $\mathfrak{z}\mathfrak{j}$, to be repeated every three or four hours until the bowels are freely moved. Repeat anodyne, should there be any nervous commotion.

20th, 2 o'clock p.m.—Bowels have been freely moved, dejections dark green. Mouth deeply ulcerated, but dry, and ulcers rather *livid* in appearance. Has been easy since last evening, and slept pretty well during the night. Has taken corn gruel several times to-day, and can now swallow

fluids without much difficulty. Pulse 106, and weak. Exhaustion considerable. Ordered Quinia Disulph. gr. iij, with Acid. Sulph. Aromat. Dilut., gtt. v, every three hours. Gargle the mouth frequently with infusion of white oak bark and alum, sweetened with honey.

21st, evening.—Salivary glands are discharging freely. Ulcers have assumed a healthy appearance, and she appears to be decidedly improving. Continued treatment.

24th.—Has continued to improve since last report. She is now lively and cheerful. Appetite good. Evacuations natural. Mouth healing.

The subsequent treatment consisted in the regular administration of nutritious diet, tonics, and laxatives, with an occasional anodyne, and she was discharged cured on the 28th.

ART. 49.—*Rabies as an Epizootic in early ages.* By Dr. HUSEMAN.

(*Amer. Med. Monthly*, Jan., 1860.)

Rabies has found, on more occasions than one, some special historians. Among these may be mentioned Krügelstein, on account of his 'History of Rabies Canina and Hydrophobia,' Gotha, 1826—an account which deserves all approbation for the labour spent on it. All writers on rabies canina, however, take their notices of it from modern times—Krügelstein himself citing those only from the eighteenth century. And yet there were cases in earlier times, which came under the observation not only of contemporary medical men, but also of the chroniclers of those days.

Thus, in the first part of a familiar historical book—'Theatrum Europæum,' by Joannes Philippus Abelinus—or Gottfried), Frankfurt, 1634—we find the following, on page 712: "In addition to all the distress, and war, and great famine, which extended over almost every place at this time, still another plague appeared, from harvest to November, 1621, in Rheinthal and the territory of Appenzoll, and the surrounding country. For, during the previous summer, the bodies of many thus dying having been thrown into the Rhine and then cast upon its shores, the dogs fed upon them; on which account they became mad, and afterwards attacked the cattle in every direction, and destroyed them. The loss of the people in this way was estimated at 25,000 gulden. At last they were obliged to turn out with spears, rifles, and poles, and destroy every animal thus affected.

"At this period, the trees, as in spring, both in these and in other places, blossomed, and the birds laid their eggs and hatched forth the young.

"In Siebenbürgen the dogs also ran mad, and not only bit cattle, but even men, causing them to go mad; so that they were obliged, with great labour and grief, to put such infected men and cattle, along with the dogs, out of the way, to prevent still further misfortune and peril, which could not otherwise be avoided."

It is worthy of remark, that Siebenbürgen was specially affected, since, according to Becher's statistics of the Austrian Empire, it still suffers, most of all the provinces of the empire, with rabies. That,

in the year 1621, men affected with rabies "were put out of the way to prevent still further misfortune and peril," is perfectly credible, when we think of the manners of the age and the country.

The erroneous idea, that rabies canina arose from the devouring of dead bodies, was extensively believed in the seventeenth and eighteenth centuries, and even finds an expression in the laws of the time. Thus, in the 'Laws of the Principality of Lippe,' vol. iii, 10, the following circular may be found relating to the interment of dead cattle:

"As it is reported that the required interment of dead cattle has been neglected in some parts of the country, and in others is not made deep enough, so that the dogs can dig the carrion out of the earth, eat it, and become mad, the authorities will take care to have a more strict compliance with the edict of May 4, 1779, and bring those violating it to punishment."

That, by the consumption of carrion, a true epizootic might be produced in dogs, which should have a great resemblance to contagious rabies, later investigations have shown.

In the other volumes of the European chronicles of Abelinus (the work is in sixteen volumes) which Dr. Huseman has examined, he finds no record except that of this epizootic among the dogs in the seventeenth century. But the misdeeds of wolves, that had gone mad, are recorded in various years. Thus, in 1651, it is stated that in Cologne, on March 31, a wolf, having lately gone mad at Ververs, destroyed twelve men before he could be slain. In his throat there was found a large piece of fresh human flesh, which might have been from a soldier of Lothringia, as these were lying unburied in quantities in that region. In the woods or forests between the Italian States of Pisa and Luca, six large, fierce wolves were seen together, who had become so famished that they not only attacked sheep and other flocks, but also their shepherds and herdsmen, destroying twenty of the latter. Hence the Grand Duke of Florence dispatched his upper master of the chase, with all his dogs and 400 soldiers, to exterminate these wolves, but they were not to be found.

Similar wolf stories are related of Bohemia, Erfurt, and Touraine, in the years 1652, 1653, and 1671, which cannot here be discussed, since they possess no special interest, and the proofs alleged merely illustrate the characteristics of the style employed in the "Theatrum Europæum."

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 50.—*On the Pathology of Croup, and its treatment by quinine.*
By Dr. Eastman, Professor of Medicine in the Geneva Medical College, U.S.

(*New York Journal of Medicine*, Sept., 1859.)

Dr. Eastman considers the division of croup into two distinct forms, spasmodic and inflammatory, as false in theory and pernicious in its practical tendencies and consequences. In croup, as in many analogous cases, the first link in the chain of morbid action is *congestion* of

the mucous membrane of the larynx and upper portion of the trachea, one or both, the phenomena of which are, first, preternatural dryness of the part from arrested normal secretion; next, a thickening of the membrane of the same; the former state producing merely the characteristic *dry* cough; the latter, by lessening the capacity of the passage, causing, to a greater or less extent, the distressing dyspnoea, supervening more or less severely, according to the intensity of the morbid action. This state of congestion may, and often does, pass off with or without treatment—the inflammatory stage, or that which is attended with structural change, to wit, permanent thickening of the membrane, or the exudation of coagulable lymph, not supervening—followed by a free secretion of mucus. Sometimes no appearance of disease succeeds the first paroxysm; more commonly, however, a second attack supervenes after an intermission of some twenty-four hours from the outset, or about the same hour of the day or night following, with increased severity, and this in turn is followed by others in like manner, at pretty regular intervals, till the abnormal state merely remits, and finally becomes continuous, as the inflammatory action fairly sets in, attended with an uninterrupted and increasing sense of approaching suffocation on the part of the little sufferer, the result of deposition of lymph in the form of false membrane in the larynx and upper portion of the trachea, and not unfrequently of muco-purulent matter in the lower portion, and in the commencement of the bronchial tubes. On the other hand, croup does not always make its appearance in this regular congestive manner. Sometimes the stage of congestion is slight, or not well marked, the inflammatory action approaching insidiously, so that the morbid exudation of coagulable lymph is noticeable almost as soon as the peculiar cough and wheezing are observed. These are doubtless the most alarming and intractable cases, from the fact that the initial and curable stage is passed before medical aid is brought to bear on the case.

CASE 1.—Some eight years ago, my eldest daughter, then a child about four years old, was attacked with croup, much in the same way as was a former child, some seventeen years ago, and who died in about one week from the onset. The paroxysms were rather mild at first, assuming a periodical form, increasing in intensity from day to day, losing, as time advanced, more and more their paroxysmal form, taking on, gradually, the continued type or inflammatory character. All the ordinary remedies were early and effectually employed—as emetics, baths, mercurial purges, hot fomentations, blisters, &c., and were repeated as the case seemed to demand, the disease, meantime, progressing nevertheless, in spite of remedies, toward a fatal termination, in daily recurring, though less distinct, exacerbations and remissions, the fever assuming more and more a continued type. Losing all confidence in established practice, and reflecting on the effect of quinine in periodical diseases of every description, I resolved to try its effects in the case, confident that no harm could follow its administration, as things were. I accordingly gave five grains, by weight, some three hours before the expected exacerbation, repeating the same quantity in one hour after. At the time anxiously looked for, as that of the approaching paroxysm, no signs of its return were manifested; a cool sweat bedewed the child's face, the breathing remained soft and pleasant, and, in fine, no symptoms of the return of the croupy state

appeared; a calm, sweet sleep supervened, and the little patient awoke next morning every way better in appearance. I pursued the same course on the following afternoon, lest there should be a recurrence of the symptoms, with equally satisfactory results, after which, convalescence went on without interruption. This circumstance made a deep impression on my mind, and I resolved to test this treatment as occasion might be subsequently presented. A favorable opportunity was soon afforded, and similar results followed the same course; and in every succeeding case of croup, up to the present time, a repetition of this simple plan of medication, when it could be fairly put in practice and carried out, has been uniformly followed by results that have served to confirm my confidence in the course pursued; and I have yet to find the first case, where this course was adopted in due time, that is, while any considerable exacerbations and remissions still remained, that did not completely yield to the treatment in question. Even in a few cases where the disease had assumed a continued form, with uninterrupted dyspnoea and fever, I have succeeded in arresting its fatal course by the exhibition of ten or twelve grains of quinine, in divided doses, at equal intervals during the twenty-four hours; though, as a general thing, little hopes of success can be entertained, after the case has put on a continued type, from any treatment that may be put in requisition.

I have spoken of the precise quantity of quinine—ten or twelve grains. This amount I do not hesitate to give a child from one to two years old, within the space of two or three hours. I was at first surprised to see this large quantity borne by infants of such an age, without the least appearance of any unpleasant or specific effects. When I have given this amount, and even more, to children three and four years of age, I have never been able, by the most careful inquiries and observations, to discover that any headache or ringing in the ears was experienced by the little patients; in fact, a complete tolerance of the medicine seems to exist in such cases.

When called during a paroxysm, I formerly employed emetics, and the other ordinary means usually resorted to in attacks of croup, to arrest the exciting symptoms; and as these passed off, I waited for further developments before resorting to the use of quinine, inasmuch as the disease sometimes, not unfrequently, perhaps, does not reappear after the first intermission; if a second attack supervened, I repeated the same course, and as the intermission or remission, as the case might be, again appeared, I was careful to administer the amount of quinine above specified within two or three hours before the time anticipated for the return of the paroxysms or exacerbation of dyspnoea. More recently I have ceased, as a general rule, to employ emetics, since they often render the stomach intolerant of the quinine, and thus prevent us from resorting successfully to what I regard as the chief indication in the treatment, viz., the preventing of the return of the succeeding paroxysms, thus cutting short the disease; and besides, I find that the exhibition of a full dose of calomel, followed by the warm bath, continued a sufficient length of time—twenty-five or thirty minutes—produces, for the most part, all the relief that can be afforded by the most active emetic, without any of the unpleasant results so often following its use, as protracted nausea and sometimes alarming prostration. When means are not at hand for the exhibition of the ordinary warm bath, enveloping the little patient in a warm or rather hot wet sheet, surrounded by a dry blanket to prevent too rapid evaporation, for an hour or two, will answer much the same purpose.

I have uniformly treated croup for several years past in this way, with as much confidence of success as I treat ague and fever, or any other

intermitting disease; and in no one instance have I been disappointed in the result, when called in the early or what I regard as the paroxysmal or congestive stage. It may be said that my observations prove that croup is but a form of malarious disease, endemic in this region, or that it is more or less affected by the periodical character of the disease in malarious districts. Be it so; I only claim to judge of the phases of the malady as it exists in the region of country where I reside.

Dr. Eastman also relates the case of an adult in which laryngitis was treated in the manner above recommended, with very satisfactory results.

CASE 2.—Some fifteen months ago, I received a telegram to visit, forthwith, the wife of a very respectable physician, residing near the village of Athens, Pa., about twenty miles distant. I arrived within two hours, and found Mrs. — labouring under a very considerable continued dyspnoea from acute laryngitis; had been ill several days. She was a feeble woman, had been previously subject to similar attacks, though far less severe and alarming than the present. In addition to the croupy cough and continuous urgent dyspnoea, paroxysms of increasing severity occurred at about six o'clock p.m. of each day, as I learned, each one threatening immediate dissolution. These distressing turns would remit, somewhat, after an hour or two, to return with still more vehemence the next day. She had been treated with antimonials, mercurials, cathartics, blisters, &c., &c., most thoroughly, and all to no purpose. I suggested quinine in three-grain doses, commencing immediately (10 o'clock, a.m.), every two hours till four o'clock, p.m., twelve grains in all; the same course to be repeated next day, beginning an hour earlier.

I learned from her husband, that the paroxysm on the day I left came on some hours earlier than was expected, so that but two or three doses of the quinine had been given before its onset; and consequently she was not brought under the full influence of the medicine; still, the paroxysm was decidedly lighter. On the next day due precaution was taken to give the proposed quantity some hours before the expected exacerbation. No paroxysm appeared from that time forward; the peculiar cough and dyspnoea gradually passed off, and no return of the disease has since occurred. I saw her a few weeks ago, for the first time since her sickness, and found her in the enjoyment of better health than formerly.

ART. 51.—*On the comparative results of the treatment of Croup by tracheotomy and by medication during the years 1854-58.* By Dr. BARTHEZ.

(*Gaz. Hebdomadaire de Méd.*, Dec. 2, 1859; and *Med.-Chir. Review*, April, 1860.)

In a letter addressed to Dr. Rilliet, Dr. Barthez inquires into the causes which may account for the varying results obtained by the medical and surgical treatment of croup. He seeks to determine the conditions which in each case influenced these results, so as to arrive at a safe basis upon which to decide upon the value of tracheotomy. During the first year after the Hôpital St. Eugénie was opened, 13 cases were submitted to tracheotomy. The first died during the operation, and successively eleven others died after operation; it was

not till the thirteenth that a cure was obtained. On the other hand, four patients who were not operated upon recovered. The fatality of the operative proceedings now induced Dr. Barthez to be more sparing of the knife; but still the ensuing year brought a great fatality—of 18 patients only four recovered. Two had been tracheotomized. But at this period French physicians began to distinguish between simple and infectious croup or diphtheria, and Dr. Barthez arrived at the conclusion that the disease (croup and diphtheria being employed synonymously) was the result of an intoxication giving rise to two forms of morbid action—the one local, pseudo-membranous; the other, general or infectious. The author now considered the operation inadmissible in the form that was primarily malignant, on account of its rapid progress; while he held that it should be done where the disease was slow in its progress, and, although severe, only induced asphyxia slowly. The asphyxia ought to be combated by operation, whatever the previous health of the child. At this time he laid down the following rules: 1. To try internal remedies, which had been most successful; 2. To perform tracheotomy at an advanced period, when the former method had evidently failed; 3. To operate also, however unfavorable the age and prior health of the patient, if there were evidence of impending asphyxia.

This method was not followed by great success during 1856, for among 18 cases there were only four recoveries, of which three had been tracheotomized. During 1857, however, the author's views appeared justified by his results, for among 33 cases (*croups*) there were nine cures, seven of which were without operation. Two of these were fortunate enough to have been brought out for operation, but to have been sent back for a further trial of internal treatment. Of 28 who were operated upon but two recovered; however, the author expresses himself well satisfied with this result (*je le trouvai très beau*), for the two patients were snatched from certain death by the operation. The general results obtained during the course of 1858 were as follows: Total number operated upon, 124, with a mortality of 106, or 1 recovery in 6.0; total number not operated upon, 62, with a mortality of 26, or 1 recovery in 2.4. With regard to the character of the disease during this year, the author remarks that it presented successively all the forms of diphtheria; the recoveries accumulated at certain periods, while at others the number of deaths was terrible. From the 1st of January to the 3d of June the non-infectious form, accompanied by slow and feeble intoxication, prevailed. The false membranes descended to the small bronchi; tracheotomy, which was almost invariably performed, scarcely yielded one recovery in 6 or 7 cases; and the recoveries nearly all took place in February. During June the epidemic almost ceased, to recover its virulence toward the end of July. During August it was so severe that of 12 children none recovered by the operation. In September and October there were four recoveries among 14 patients; then, after a respite of a few days, the epidemic appears more severe than ever, and with great efforts but one cure is achieved among 14 patients.

The author concludes from the preceding facts that it is not the treatment which determines the results, but that we must seek for the

causes of the variations observed regarding them in the varying forms of the epidemic.

Although Dr. Barthez regards the two varieties of diphtheria as "the expression of the same affection," which often renders it "difficult to establish a distinction at the bedside," he considers it necessary to make the distinction, because the results of the treatment are so different, according as the diphtheria is local or general. In a subsequent part of the paper, though admitting the doubtfulness of the statistics, he states that of 55 patients in whom the disease put on the general type, only 7 recovered, or about 1 in 8; while of 64 patients where the disease was of the local character, 27 recovered, or 1 in 2.3.

The following are the characters which Dr. Barthez regards as distinctive of the two forms of the disease:

1. When the false membranes extend in a continuous layer over the palate, uvula, tonsils, so as to spread into the respiratory passages, he considers generalization of the disease certain; and still more so if the nasal fossæ are attacked. On the other hand, the absence of coryza, the limitation of the false membranes—i. e., their exclusive formation in the larynx, or their slight extension to the tonsils only—are the features which appear to indicate the absence of general intoxication.

2. The gray, grayish black colour, the gangrenous appearance of the false membranes visible on direct inspection, the discharge of a blackish liquid and ichorous blood on the slightest touch of the throat, are certain signs of intoxication; while the gray-yellow, and above all the white tint, of the false membrane indicates local disease.

Diphtheritic intoxication is further characterised by marked tumefaction of the cervical ganglia of a painful character, especially if accompanied by swelling of the adjoining cellular tissue; by the production of false membranes on the skin when deprived of its epidermis, and on wounds; by gangrene of the mucous membranes of the skin or of wounds; by abundant albuminuria, which is independent of all other causes which may produce it (upon this symptom the author was "imperfectly informed" up to the end of 1858); by the leaden, and not purple, hue; the smallness and feebleness of the pulse; the exhaustion apart from the asphyxia, or out of proportion to the apparent asphyxia. Finally, diphtheritic intoxication is characterised by consecutive paralysis, either limited to the pharynx or general.

ART. 52.—*Arsenic in obstinate chronic Bronchitis.* By Dr. Wood.

(*Trans. of the College of Phys. of Philadelphia*, March 2, 1859; and *Amer. Jour. of Med. Science*, Oct., 1859.)

"My attention," says Dr. Wood, "has long since been directed to the probable existence in certain cases of obstinate chronic inflammation, no matter in what part of the body it might be situated, of the same state of system which gives extreme obstinacy to some cutaneous eruptions, such as psoriasis and lepra. This view is of practical importance; as arsenic, having proved a most effectual remedy in the cutaneous affections alluded to, might be equally beneficial in obsti-

nate chronic inflammation elsewhere, if possessed of the same systemic character. The idea is not a new one. Professor Simpson, of Edinburgh, having been led to the supposition that a certain obstinate affection of the bowels, not uncommon in that city, was of a nature similar to cutaneous eruptions, employed arsenic in it with very beneficial effect. The same remedy has been long employed in obstinate periostitis, and with great asserted benefit in chronic nodosities of the joints of a rheumatic character. I have frequently thought of using it in chronic bronchitis, which had resisted ordinary treatment, but never carried the idea into effect until, in a case of nine or ten years' duration, which came under my notice some time since, connected with psoriasis of the face, I had a fair opportunity of trying the remedy. Under the use of Fowler's solution, in the dose of from three to five drops, three times a day, continued for six or eight weeks, the cutaneous eruption and chronic bronchitis were both so much relieved that the remedy was discontinued. Indeed, both affections had almost, if not quite, disappeared; and the patient had not been equally free from his bronchial affection at any time for years before. In consequence, however, of apprehension of injury to the stomach, not well founded I believe, he prematurely omitted the medicine; and three or four months afterwards both affections began to reappear. I am again using the solution in the case, and thus far, with a similar result."

ART. 53.—*On French millstone-makers' Phthisis.*

By Dr. PEACOCK, Assistant-Physician to St. Thomas's Hospital, &c.

(*Med.-Chir. Review*, Jan., 1860.)

In this paper Dr. Peacock draws attention to the prevalence of pulmonary disease in a class of workmen among whom it has not been hitherto particularly noticed. The stone which these men work is known in the trade as the "French burr." It is a peculiarly hard kind of flint, which is known to French mineralogists under the names of "silex molaire" or "pierre meulière." It is met with in the Paris basin, above the gypsum containing bones.

"My attention," says Dr. Peacock, "was first attracted to the prevalence of pulmonary disease among the French millstone-makers by the number who applied to me at St. Thomas's and the Victoria Park Hospitals, and before I had made any inquiries at the shops which might bring the men more particularly under observation. I feel therefore convinced that the occupation is one which predisposes to pulmonary affections; but it is open to inquiry in what way it exercises an injurious influence—whether it be, as supposed by the men themselves, from the dust which they breathe, or from the influence of other causes which rather operate by deteriorating their general health.

"When I visited the shops during the spring, they were certainly dusty, though, from the dampness of the weather, it was said less so than usual. There can also be no doubt that the dust is extensively inhaled; for in a case, the particulars of which will shortly be detailed,

siliceous particles were found in consolidated portions of lung. It is evident that such particles lodged on the mucous membrane of the smaller bronchial tubes or in the cells of the lungs must be a serious source of irritation, tending in persons of healthy constitution to the production of chronic bronchitis and asthma, and in those inheriting a constitutional predisposition to phthisis, to the development of tubercle.

"Other causes doubtless conduce to the unhealthiness of the occupation. Thus, though, as a general remark, the workshops are sufficiently roomy and protected from the weather, in some cases they are very defective. In one yard, some of the men were at work in underground cellars, which, though freely open above, must be damp and unwholesome; and others occupied open sheds, where they must be much exposed to the weather. The want of general exercise is also objectionable. The men work at the stones standing up or leaning over them, and, except in their arms, use little muscular exertion, and their chests cannot be well expanded. Some of the men also habitually take an amount of stimulus which must be very injurious. They state that their occupation is an exhausting one, and they in consequence drink a large quantity of beer. Four or five pints is, I believe, by no means an unusual quantity, and some take spirits also. One of the masters, a fine healthy-looking middle-aged man, who said that he had worked at the trade for many years, and had always enjoyed good health, ascribed his immunity from the usual effects to his temperate habits, and stated that if the men lived temperately they suffered much less. In his yard he allowed the workmen a pint of beer morning and afternoon, but interdicted all going to the public-house, or having beer brought upon the premises; and stated that his men were in consequence healthier than in other yards. This statement is confirmed by the fact, that though his shop is not far from St. Thomas's Hospital, and several of his men have applied to me for other ailments, I have seen no case of phthisis or chronic bronchitis among them.

"So far as the ordinary necessities of life are concerned, the millstone-makers are generally favorably placed. They earn good wages, being paid at the rate of sixpence per hour, or five shillings a day, or by piecework, at which they can earn still more. They are well clad, and live well. The occupation is also a tolerably certain one, but the men may occasionally be thrown out of work, and so suffer privation.

"The causes which have been named do not therefore appear sufficient to explain the great tendency to pulmonary affections among the millstone-makers, apart from the injurious influence which is exercised by the gritty particles of silix which they inhale while at work. This is indeed, I believe, the main cause of their sufferings."

The particulars of two fatal cases are given.

So far as we know at present, the complaint under consideration does not admit of any special treatment, but there is no doubt that much may be done in the way of prevention.

"1st. It would appear that much of the deleterious influence of French millstone-making may be obviated by not allowing persons to

enter the trade till after they have attained their full growth and vigour of constitution. As I have before mentioned, one of the foremen said that when boys were apprenticed to the trade they scarcely do more than live out their time; and though this may be somewhat too strongly expressed, it appears to be mainly true, for one of the masters said that he had declined to take apprentices, from the number of persons whom he had known die of consumption when put to the trade early. On the other hand, all the information obtained tended to show that the work is much less injurious to those who take to it when more advanced in life. I found at work several middle-aged men who had been some years at the trade without suffering, and one man of fifty-four told me that he had taken to the work when thirty-four years of age, had continued at it for twenty years without suffering, and was then in good health.

"2dly. The men should be cautioned to be careful to protect themselves against the usual causes of cold, by wearing suitable clothing, and especially to avoid all excess in the use of stimulants. Unfortunately, men engaged in trades which are known to be injurious are apt, partly perhaps from recklessness, but partly also from ignorance, to be dissipated in their habits; we are informed that such was the case with the millstone-makers of Waldshut, and with the needle-pointers of Worcestershire; and the intemperance of the dry-grinders of Sheffield is notorious. The French millstone-makers have often told me that they require a large quantity of stimulating beverage, and that if a man is abstemious he dies all the sooner; and this is made the excuse for their taking a very immoderate amount of stimulus. There can be no doubt that habits of intemperance very greatly aggravate the other evil influences to which they are exposed, and that were they to live temperately, but well, they would suffer less, and live much longer. I cannot but think that representations of this kind would have much weight with the men; and I am informed that their habits have latterly improved, and with advantage to their general health.

"3dly. Much may probably also be done to mitigate the injurious effects of the work by lessening the liability of the men to take cold from exposure to the weather, by reducing the quantity of dust thrown off and diffused in the atmosphere, and protecting the workmen against its inhalation. The workshops should be roomy and well ventilated, and should admit of being freely opened in dry and warm, and closed in damp and cold, weather. Working in underground cellars or in the open air are both objectionable. The men should be advised to work as much as possible in the upright position, instead of stooping over the stones, so as to expose themselves as little as possible to the inhalation of the dust. The stones might, perhaps, be equally well worked wet instead of dry, and thus much less dust would be thrown off; and the only objection to this which I have heard stated is, that the tools would the sooner wear out. Lastly, they might avoid the inhalation of the dust by wearing respirators, either at all times, or when the shops are more particularly dusty."

ART. 54.—*On the action of Iodide of Potassium in Phthisis.* By
Dr. CORRON, Physician to the Hospital for Consumption at
Brompton.

(*Medical Times and Gazette*, Dec. 24, 1859.)

In these experiments the cases have not been selected, but taken as they came into the Hospital, at whatever stage, and under whatever condition they might happen to present themselves; those only being excluded in which either some active symptom or unusual complication demanded more immediate and decided treatment. The present observations, like the preceding (v. 'Abstract,' XXX, p. 69), have been made upon twenty-five patients.

The iodide was administered in doses varying from five to seven grains, twice and, in some instances, three times a day, simply dissolved in pimenta-water. The cases consisted of thirteen males and twelve females, their respective ages varying to 16 to 44, the majority being about midway between the two. In eleven, the disease was in its first stage; in two, softening had commenced; and in twelve, there was unmistakeable evidence of more or less pulmonary excavation. The medicine was continued, according to its effects, from a period varying from three to ten weeks. Whenever it seemed, after having been taken for four weeks, to be producing little or no good, it was discontinued, and the subsequent progress of such patient under other treatment carefully observed.

In two instances, headache was complained of; in six, there was more or less dyspepsia, flatulence, or loss of appetite; and in three cases, hæmoptysis occurred. Whether such symptoms were the *post* or the *propter hoc* it was rather difficult to determine: there seemed to be no reason, however, for suspecting the latter in the cases of hæmoptysis; but, from subsequent observation, the headache and dyspepsia were fairly attributable to the iodide.

In order to obtain comparative results, in eight cases the iodide was combined with cod-liver oil, and in seventeen administered alone.

There was a visible improvement in eleven of the patients; six of these being in the first stage of the disease, and the rest more advanced; in six instances there was no change either one way or the other; and in eight the disease advanced more or less rapidly.

In making an analysis of the eleven improved cases, it was found that in six of the number the iodide had been taken in conjunction with cod-liver oil, and that in five it was taken alone. The most marked improvement was certainly where the two had been associated. In only three cases, where the iodide had been taken by itself, had the patient's weight increased, whilst in ten it had diminished, and in four remained unchanged. Out of the entire twenty-five cases, therefore, only in five could it be fairly argued that the iodide had been of service; and when it is remembered that patients coming into the hospital are immediately placed under greatly improved circumstances, both as to general hygiene and diet, the good effect of the

medicine, even upon these five patients is very far from being demonstrated.

Four patients, who either had received no benefit from the iodide, or with whom it had disagreed, improved afterwards very much, and gained considerably in weight, under the administration of steel and cod-liver oil.

In four cases, during the use of the iodide of potassium, there was a marked amelioration in the pulmonary symptoms; the breathing became less difficult, and the cough and expectoration diminished; but here again it is fairly open to question whether such improvement was due to the iodide, or to other and concomitant circumstances.

From the above observations we seem to arrive at the following conclusions, viz. :—

1. Iodide of potassium, given in moderate doses to consumptive patients, occasionally produces dyspeptic symptoms; but more commonly is unattended by any marked result either in one direction or the other.

2. Under its use the weight is seldom increased, but either remains stationary or is diminished; the latter effect being of most frequent occurrence.

ART. 55.—On the use of Larch Bark in Pulmonary Hæmorrhage.

By Dr. OWEN DALY, Physician to the Hull General Infirmary.

(*Med. Times and Gazette*, Nov. 12, 1859.)

The experience of Dr. Daly agrees with that of Dr. Frezill (who recently introduced the medicine to the notice of the profession), Dr. Moore, Dr. Hardy, Dr. Kennedy, Dr. Carmichael, and some other Dublin physicians. "I believe," says Dr. Daly, "the tincture of larch will be found to be a most valuable agent in arresting and restraining pulmonary hæmorrhage. It possesses powerful astringent properties, combined with the styptic and slightly stimulating qualities of a terebinthinate—a rare combination, and one which appears to me to present all the requisites for a perfect styptic. By virtue of these properties, it acts as a mild tonic, improving and strengthening the digestive organs, while it does not interfere with the healthy and natural action of the bowels. Further, it is a palatable and pleasant medicine, having an agreeable balsamic '*pinic*' flavour, which is no slight recommendation in medicines of this class, especially when their continued exhibition must be persevered in for a lengthened period."

Dr. Hardy has given larch bark in fifteen cases of pulmonary hæmorrhage, some passive and some active, in one case of severe epistaxis, and in one case of chronic cystitis, and in all cases with positive advantage, except in the last.

CASE 1.—On the 3d of August, I was asked to visit an unmarried lady, æt. 25, who had been suffering for several days from passive pulmonary hæmorrhage; she had hurried respiration and frequent cough, attended with expectoration of blood. She had had hæmoptysis on two previous occasions; both lungs were diseased, the left extensively, the disease having advanced to the formation of pulmonary excavations. The finger-ends were very much

clubbed. Lead and opium were first prescribed, afterwards sulphuric acid; finding, however, after persevering in the use of each for several days, that the hæmoptysis still continued without any abatement, and that she was becoming weaker, the tincture of larch was substituted for the acid, and was given in half-drachm doses every third hour. Two days after, the hæmoptysis had almost ceased, the sputa being only occasionally tinged with blood. The tincture was omitted for a few days on two occasions, and on each the expectoration became slightly tinged with blood; which, on the medicine being resumed, soon subsided. Latterly she has taken the tincture along with the infusion of cinchona.

CASE 2.—The following case I saw in consultation with my friend Mr. Dix on the 31st of July. The patient was a married man, æt. 28; active hæmorrhage had existed for a week. The blood coughed up was pure and unmixed. The hæmoptysis occurring every day or every other day, sometimes twice in the day, and on one occasion three times, but never lasting for more than a few minutes at a time; on one occasion at least four ounces of pure blood were coughed up. The constitutional disturbance was very slight, the pulse rarely exceeding eighty; the cough was very trifling, more—to use his own expression—a “piffing” than a cough. The hæmorrhage was always preceded by a “spongy feeling” referred to a particular spot in the right side of the chest, whence the effusion evidently proceeded. In this case an excellent opportunity was afforded for testing the virtues of the tincture of larch as a styptic, inasmuch as, previous to its employment, lead and opium, gallic acid, the mineral acids and turpentine, had all been administered, and each persevered in for two or three days without giving any relief. On the 4th of August, the tincture of larch was prescribed in drachm doses every two or three hours, given in water. The result was most satisfactory. The hæmorrhage, after the administration of a few doses, was completely arrested, and although nearly four months have elapsed, no return of the bleeding has taken place. The dose was gradually diminished, and after a time quinine was added to the prescription.

CASE 3.—The last case I propose relating is one of severe epistaxis occurring in a girl, æt. 19. She stated that for several weeks past she had suffered from profuse bleeding from the nose, generally commencing in the evening, and on more than one occasion she had become quite faint from loss of blood. The bleeding was not vicarious, as she had menstruated quite regularly; her appearance was anæmic and indicative of great loss of blood. Steel and quinine in combination with sulphuric acid were prescribed and taken for a fortnight without the least benefit. The tincture of larch was therefore substituted in half-drachm doses every fourth hour. The bleeding was completely arrested at the end of a week; she, however, continued to take the tincture in infusion of cinchona for some weeks longer; and when last seen, on the 10th September, was very much improved in her general health. It would be not only tedious, but unnecessary, to take up more time by a relation of further cases; the refrain in each would be the same, an immediate and striking improvement in the patient's condition, the hæmoptysis in every instance yielding to the medicine, in some cases after a few doses, in others after a more prolonged exhibition.

ART. 56.—On the use of Hypophosphites of Soda and Lime in Phthisis.
By Dr. QUAIN, Physician to the Hospital for Consumption at Brompton.

(*Lancet*, March 17, 1880.)

The statements of Dr. J. Francis Churchill as to the marked benefit resulting from the use of these salts in the treatment of phthisis are by no means borne out by the experience of Dr. Quain. Of twenty-two cases, taken without selection from the ordinary in-patients of the Brompton Hospital, "six," says Dr. Quain, "were more or less improved while under treatment. Of these six, three were improved in but a slight degree, and only for a short time; in three the improvement was marked, but in one only of the latter has the improvement been permanent; of the two other cases, one continued using the hypophosphite for three months after leaving the hospital, during which time she grew gradually weaker, and finally died; the other, a man, after leaving the hospital, continued the treatment for some time, but gradually grew worse, and is now dying. All the other sixteen cases steadily lost ground whilst using the hypophosphites in the hospital. Happily, in six of these cases, the treatment by hypophosphite was suspended, and the usual treatment by cod-liver oil, tonics, &c., being substituted, a decided improvement in each was the result."

ART. 57.—On the Coagulation of the Blood in the Venous System during life. By Dr. G. M. HUMPHRY, Surgeon to Addenbrooke's Hospital, Cambridge.

(*Pamphlet*, Macmillan and Co., 1880.)

The purport of Dr. Humphry's inquiries, which afford the matter for an admirable thesis for a Medical Act in the University of Cambridge, are condensed in the following summary:—

1. The great veins are very liable to become obstructed by clots forming in them when the patient is greatly debilitated, and when the circulation is enfeebled—by inflammatory affections, by discharging abscesses, difficult labour, and other causes.
2. The clots result from an altered state of the blood, turning the fibrine to solidify; and are found in those parts of the veins which offer the greatest facilities for its so doing.
3. The inflammation of the veins is a consequence of the pressure of the clot, and is chiefly confined to the vessel itself, and to the surrounding cellular tissue.
4. The clots may soften and be absorbed, or they may adhere to the walls of the vessels, and may lead to the complete and permanent obliteration of their canals: more extensive absorption may be moved, or shrink into definite localities, and thus form a permanent obstruction to the circulation.
5. The affection rarely leads to any serious result.

ciated with so-called pyæmia ; but has no necessary or frequent connection with it.

Dr. Humphry relates six cases of clots in the pulmonary artery, which have come under his own notice. It is not impossible, he thinks, that "emboli" may sometimes have constituted a nucleus for the formation of the plug ; but he evidently attaches but little importance to the embolic theory. The remarks upon the symptoms and cause of death are of much interest.

"Pulmonary clots are not usually attended with pain or uneasiness, or any symptoms which lead, with certainty, to a diagnosis. Hurried, oppressed breathing, with faintness, occurring without any other obvious cause, would make us suspicious of this affection, and should induce us to auscultate in the situations in which a bruit, originating in the pulmonary arteries, would be most likely to be distinguished. I am not aware that a bruit, produced in this manner, has yet been recognised, though it probably would have been discovered had attention been directed to the point during the life of any of the patients.

"It is, indeed, a remarkable feature in the affection that the pulmonary arteries, one or both, in the main trunks, or in the larger branches, may be blocked up to a considerable extent without causing any sign of obstruction to the circulation, or of affection of the lungs, or, indeed, without producing any symptom whatever. In Case VII, it was clear, from the size of its remains, that a clot must at some time have occupied nearly the entire calibre of the main trunk of each of the pulmonary arteries ; yet there had been no symptoms of such condition observed during the life of the patient. In Case I, the patient appeared to be in her usual health till the moment of the fatal seizure. In this, and other parallel cases that have been recorded, there can be no doubt that the clots were forming for some time before death, and that sufficient blood found its way by the side of them into the lungs to maintain the circulation and supply the wants of the system.

"The sudden death is probably caused by a slight exertion following a period of repose. During the repose we may judge that the clots are increasing ; and the ensuing exertion, by causing a greater demand for oxygenated blood than can be supplied through the impeded pulmonary vessels, induces fainting, which is fatal. The extreme suddenness of the fatal seizure in these cases has suggested the idea that it may have been caused by some displacement of the clots, producing more complete occlusion of the vessels ; but this is opposed by the fact that the clots are usually more or less adherent to the walls of the vessels, and show no sign of such displacement having taken place."

In the remarks upon the clotting of the blood in the cavities of the heart, with which the thesis terminates, Dr. Humphry says :

"I think that additional observations upon the coagulation of the blood in the dead body, under varying circumstances and after various diseases, must be made before we can agree with the author of the excellent work, 'On the Coagulation of the Blood,' that either the tubular or the laminated structure of a clot, or the fact of a clot consisting of a fibrinous tube containing red blood in its interior, is conclusive evidence of the coagulation having begun before death."

ART. 58.—“*Respiratory distress*” not diagnostic of fatty degeneration of the Heart. By Dr. JAMES SEATON REID.

(*Dublin Hospital Gazette*, May 1, 1880.)

The following case is one of fusiform aneurism of the innominate and aorta, with incompetency of the aortic and mitral valves. Its chief interest is in showing that the “respiratory distress,” to which Dr. Stokes directed attention, as diagnostic of fatty degeneration of the heart, may be connected with other lesions of this organ.

CASE.—A remarkably well-formed man sought hospital relief in consequence of his suffering from cough and dyspnoea, and latterly from anasarca. During the night after admission he had a severe paroxysm of dyspnoea, which caused him to rush into the lobby for air, and made the night-nurse raise the resident surgeon to see him. At my visit next morning I was struck with the peculiarity of his breathing, and his position in bed, and elicited from him the following history:

He stated that he was by trade a cooper, and that his age was 56, although he looked at least ten years older. During the last two years he had been subject to cough and dyspnoea, and was compelled to lie almost constantly on his left side; but he had never expectorated any blood. For six months past he had suffered much from pain in his shoulder, neck, and head, on the right side, but never on the left, nor had he at any time an attack of acute rheumatism. His legs had been oedematous during the last half year. Some months ago he had a “catch in his breathing” similar to that of last night, which compelled him to run into the street for air; and he pointed out the seat of his suffering to be between the ponsum adami and upper edge of the sternum; and was certain he had never had any dysphagia.

Increased pulsation was seen in the carotid and subclavian arteries, and was more manifest at the right sterno-clavicular articulation than on the left. A feeble, undulating pulsation was also seen between the third and fourth intercostal spaces on the right side near the sternum, but none on the left.

Strong pulsation was felt at the right side of the sternal notch, and in behind the insertions of the sterno-clavio-mastoid muscle, unaccompanied with thrill; and both subclavian arteries expanded much, just where they escaped from under the clavicle.

A single murmur was heard in the carotid and subclavian arteries, which became double under the top of the sternum and sternal end of right clavicle, and continued so as low down as a line on a seat with the left nipple. A single murmur could be heard about two inches lower and a trifle to the right of the apex of the heart.

The impulse of the heart is noticed as my usual mode of “feeling” it, that it was neither unusually feeble nor excessive. The only unusual expansion of the chest to be seen in the erect or the recumbent position.

Both pupils were natural.

On watching the peculiarity of his breathing, I was struck by the resemblance of the “Respiratory Distress of DuRoi” to the last, unaccompanied with moaning, and much less intense than the former. The only peculiarity in his peculiar ascending and descending side.

When a paroxysm of his distress was imminent and his breathing had become quiet or had ceased for a time, he would have a paroxysm of a fit of coughing, which subsided in about 10 or 15 minutes, and then my

expectoration. During the fit of coughing both external jugulars, and a large vein crossing just above the sternal notch, were distended to a size not less than that of the fore-finger, without any pulsation being observed in them. The pulse, if counted during a minute, would be described as irregular; but presented that *regularity in its irregularity* which was witnessed in two aneurismal patients recently under my care, in whom the symptom of respiratory distress was also present. This patient was therefore the third, during the last twelve months, in whom I had observed that during the paroxysm of "distress," *the pulse became invariably slow when the distress was greatest, and as invariably quick when it was subsiding, or whilst the patient had ceased to breathe.* I am therefore disposed to believe that this is not a "mere coincidence," but that it and the distress stand towards each other in the relation of cause and effect; and as I find no mention of this peculiarity in the pulse by any writer on cardiac pathology, I believe I may claim to be the first who has noticed its association with the respiratory distress. Neither it nor the distress is to be found equally marked or intense on every day, for, as in other cases of suffering, the patient has his "good days" and his "bad days," his hours of comparative ease as well as of severe suffering. The pulse at the wrist varied in strength and fulness, but in the brachial arteries it presented the well-marked character of the "jerking pulse," and occasionally also in the radial artery.

During the ten weeks this patient was under observation I never found him lying on his right side but once; his usual position was leaning on his left elbow, with his head about a foot off the pillow; occasionally resting it on his hand, which was, no doubt, the cause of a varying oedematous state of his left arm and forearm. He had most ease sitting up with his feet hanging over the side of the bed, and although at the very side of the fire, and that he had abundance of clothes, he was always complaining of cold. His sufferings were generally increased in the evening, and he insisted at night on being allowed to sit before the fire with his bedclothes wrapped round him. This necessarily led to considerable dropsical swellings in his legs, which, indeed, vesicated and burst, and were with difficulty healed. At no period of his illness was there any ascites, or oedema of the face—nor was the urine albuminous.

Examined after death, which happened shortly after admission into the hospital, the principal disclosures are as follows:

The heart, when divested of extraneous matter, weighed 27 oz. There were several "lymph spots," apparently between the serous membrane and the muscular structure; one, of several inches in extent, on the right ventricle. The hydrostatic test showed the pulmonic valves to be perfectly competent, but the aortic semilunars were quite incompetent—on each of its three divisions a hard calcareous-like deposit was found. On the back of two of these little wart-like growths projected from the surface. There are a few soft wart-like vegetations on the mitral valves. The left ventricle is considerably dilated; its walls very much thickened, measuring at its middle $1\frac{1}{2}$ inch; the muscular structure firm, and without any trace of fatty degeneration, when carefully examined by the microscope. The right cavities and valves are normal, and without any dilatation of the venæ cavæ. The lining membrane of the aorta was thickly studded for several inches with atheromatous deposit. The aorta and innominata were dilated, and, in order to note the extent, they were compared with a healthy specimen. When both were slit open and spread out it was found that the aorta in the healthy specimen measured, transversely, $2\frac{1}{2}$ inches immediately above the semilunar valves, and the innominata, before its bifurcation, $1\frac{1}{2}$ inch; whilst in the diseased specimen they measured at the

same parts respectively 4 inches and 1½ inch. There was calcareous and atheromatous deposit in both coronary arteries, which were also enlarged.

There was no effusion into the pericardium or pericardium, but there was a considerable amount into both pleurae: the left lung was much heavier, and there were very firm adhesions of the inner of the right lung to the thoracic wall and basis of several inches in length between the sides of the heart and the surface of the lower lobes. The liver was healthy. The lungs were both very much depressed, with calcareous deposit in the left lung: the right lung was very small and lobulated, but its structure was healthy: the right lung was very large and had a considerable amount of fatty deposit in its external structure.

ART. 59.—On the diagnostic value of Murmur in the Pulmonary Artery. By Dr. SURVIVAL, Physician to St. Mary's Hospital, &c.

(Medical Knowledge Society, Feb. 1, 1881.)

"Disease of the valves of the pulmonary artery," says Dr. Forster, "is so rare that we are not likely to attribute any great value to it; but we attribute a murmur produced in the pulmonary artery a considerable value, acting upon the vessel from without, rather than to an internal cause, the blood-current existing within its area. I have not met with an instance of diseased pulmonary valves in a series of 100 autopsies of pulmonary disease which I have recently examined, and in the analysis of Dr. Chambers of 367 cases of cardiac disease, there was not one in which the pulmonary arteries were alone affected, though there were several cases in which, conjointly with the aortic, mitral, and tricuspid valves and mitral, or with the aortic alone, the valves of the pulmonary artery were morbidly affected. Although disease of the pulmonary valves is one of great rarity as an idiopathic affection, and this rarity may aid us in our diagnosis, I have no doubt of its importance as a cause. I could illustrate by a case now and for some time past under observation. Every auscultator knows that voices heard in the case of the pulmonic orifice are heard with more greater frequency than the numbers just quoted would indicate. In the case under review the St. George's records by Dr. Chambers, the transposition of several valvular affections can now be traced to the fact that the disease, and the pulmonary murmur, if consequent to any of the disease, is probably only of secondary importance. But there is a case, regarding the case, we have to deal only with a pulmonary murmur of a certain kind, is no other evidence of cardiac disease, and when we have an absolute proof that the "effect observed" does not arise in the pulmonary artery, circulating current within the artery, then a deep disease is involved, not only of interest, but of great importance. In the case under review, in which the murmur is produced, the following facts, which suggest themselves are: What causes or causes the murmur heard in their normal or abnormal condition, is it a disease of the pulmonary artery of the pulmonary artery?—and we, by the aid of a knowledge of the pulmonary artery, arrive at any conclusion regarding the condition of surrounding parts?

"The pulmonary artery, on emerging from the right ventricle, passes under the sternum, somewhat to the left of the middle of the sternum, and its costal articulation; it inclines upwards, as the heart goes by its base, and

intercostal space, passes upwards under the third costo-sternal articulation, and then, curving inwards, passes through a portion of the second intercostal space. It is therefore in this region—the second and third intercostal spaces, and the second and third costal articulations—that the sounds, normal or abnormal, produced in the pulmonary artery are heard. This locality is diagnostic: neither aortic nor mitral murmurs are heard here unless they are also heard in the parts corresponding to their site; pulmonary murmurs are not found to extend much beyond the region just named.

“But if post-mortem records so rarely exhibit the explanations of the murmurs attributed to the pulmonary artery, why are we to regard this artery as the means of their production? Would not consonance or conduction, or some other acoustic principle, serve to attribute the sounds to other agents? It seems difficult to adopt such a view in defiance of all the rules by which we judge of physical phenomena; and moreover, the occurrence of a few typical cases may serve to set the question at rest, and to determine whether or not the pulmonic orifice is subject to the same laws as the other vessels. As an illustration of the importance of investigating this matter carefully, and arriving at positive conclusions: In a young lady whom I have recently attended in conjunction with Dr. Vinen, in rheumatic fever accompanied by endocarditis and pericarditis, convalescence was established with an arrest of the cardiac symptoms. Owing to circumstances which do not require to be detailed here, a relapse took place, and now for the first time a loud systolic murmur was heard in the region of the pulmonary artery, to the left of the sternum, without a trace of it at the second right intercostal space. ‘This murmur,’ to quote from my notes, ‘had not been previously audible; the day before, and generally, there has been an aortic systolic murmur.’ During a protracted confinement to bed in a not very airy apartment, tubercle had become developed at the left apex, as evidenced by marked dulness and tubular breathing; and the point that could be raised with reference to the murmur was, whether it was not rather due to the pressure exerted by the infiltrated lung upon the subjacent pulmonary artery, aided, perhaps, by counter-pressure from enlarged bronchial glands on the posterior surface of the artery, than to any obstruction within the artery arising from the endocarditis. That the former is frequently the case, especially in the early stage of phthisis, when considerable infiltration has taken place, so as to involve the inner and upper portion of the left lung, which is in contact with the pulmonary artery, I am satisfied. The murmur, under these circumstances, is often only audible towards the end of expiration, when the incompressible, tuberculated lung is pressed against the artery as it rises to meet the former. Again, in other instances, where a similar state of things may be inferred from other circumstances, the murmur is not heard in the erect posture of the patient, but is produced by the least pressure when he is in the recumbent position. Here, in the one case, the pulmonary artery appears to recede from the condensed lung; in the other, the indurated tissue rests upon it, and diminishes the channel, a diminution which is increased by the slightest pressure with the stethoscope.

"I have an interesting case still under observation, in which, during convalescence from scarlet fever, I discovered, in a boy of fourteen years of age, a loud systolic murmur, limited to the pulmonary artery; there was slight dulness at the site of the murmur, but otherwise no symptom of organic affection. In the erect posture the murmur disappeared. But under similar conditions the murmur has always been reproduced, and subsequently it also became audible in the erect posture. My conviction from the first was, that it was due to a pressure exerted from without upon the artery; and the opinion that it was brought about by enlarged bronchial glands has been confirmed by the appearance of auscultatory symptoms of late, which indicate a deposit of tubercle at the apices, but especially in that of the left side.

"The following case offers numerous points of interest, but I quote it chiefly as bearing upon the question of the production of pulmonary murmurs.

CASE.—G. B.—, a discharged soldier, æt. 22, came under my care at St. Mary's on the 6th of December, 1859, complaining of cough, from which he had suffered for two years; he had hæmoptysis between seven and eight months previously. There was great emaciation, with absolute dulness of the whole of the left side of the thorax, anteriorly and posteriorly; and entire absence of respiratory murmur and vocal fremitus in the same extent. At the upper part of this side the heart's sounds were heard loudly, and there was bronchophony. There was a harsh systolic murmur at the third left cartilage, and a diastolic murmur was heard to the right, and below the left nipple. Nothing wrong was noted on the right side of the chest. There was no doubt as to the presence of consolidation of the entire left lung, of a pulmonary murmur, and at first also of a mitral murmur, the two last being apparently the result of endocardial disease. He was ordered to rub in tarrate of antimony ointment as a counter-irritant, to take the syrup of the iodide of iron (one drachm three times a day), and a quarter of a grain of morphia nightly.

Dec. 9th.—The systolic murmur heard, at last report, at the third left cartilage, is now diffused over the left clavicular space; it extends to the second right cartilage, below the left clavicle, towards the acromion, and downwards to the middle of the sternum. No murmur, but only the impulse of the heart, is perceived under the left nipple. There is no respiratory murmur over the left side. The pulse is 112, full. The man coughs less, and says that he feels better. Repeat the syrup and a quarter of a grain of acetate of morphia, with five grains of the compound extract of colocynth, every night.

13th.—The patient states that for four or five months he has had a difficulty of swallowing; complains of a continued pain in the region of the heart, and vomits with his cough; was much flushed at the time of the visit. There is a loud systolic murmur over the whole heart; and it is doubtful whether it is louder over the pulmonary artery or over the left apex. The heart's impulse, but no murmur, is heard at the back of the patient. A nitre mixture, and four leeches to the region of the heart, were ordered. Very severe hæmoptysis supervened shortly after this, he became rapidly worse, and death ensued on the 18th of December.

The autopsy took place on the following day. On opening the thorax, a quantity of reddish-brown fluid escaped from the left lung, owing to the

laceration of a cavity at its upper part; similar fluid was found in the larynx and trachea. The left lung was absolutely and universally adherent, the adhesions being so old and tough as to render regular dissection necessary to remove the organ. On the right side there were only very slight old adhesions at the back. The middle and base of the right lung were in a semi-consolidated condition from recent inflammatory action. These parts broke up easily, and contained much sero-purulent fluid. There was no trace of tubercle in the right lung. The whole of the left lung appeared deprived of vitality; the blood-vessels were empty; the tissue presented a dirty-green colour, was evidently gangrenous, and uniformly indurated. Throughout the lung were small, irregular cavities, and the greenish colour was broken by a dense, whitish matter, disposed in coarse reticulations, and proceeding or shooting out, as it were, from an accumulation of large masses of the same growth at the base of this lung. It cut hard, and was peculiarly white and fibrinous-looking. The part of the lung bordering upon the heart also presented a similar hard, scirrhus appearance to the eye and to the touch. Adjoining the large vessels of the left lung, a large white and pinkish mass, with a smooth surface and lobulated, was observed cropping out from below. It was clearly a cancerous growth, developed probably in some of the bronchial glands. It occupied the pulmonary artery, so as to surround it below and at the sides, and, with the superjacent tongue of indurated and gangrenous lung tissue, to compress it, and materially to narrow the channel of the artery. The aorta just escaped contact with the mass.

Here, then, we had at once a complete explanation of the pulmonary bruit heard during life. The chief mass of cancer at this point took up about as much space as an orange; the cancerous growth entered the lung along with, and external to, the pulmonary artery, which, however, continued pervious as far as it could be traced, and did not appear to have materially suffered in its structure. The pulmonary artery external to the lung was perfectly healthy, and not adherent to the growth. The pleura were much thickened in many parts, and presented a lardaceous appearance from infiltration with cancerous matter. In some parts, immediately subjacent to the pleura, there were yellow nodules, closely resembling softening tubercle, and varying in size from a pin's head to a pea; the pleura and the pericardium were fused together on the left side; the pulmonary valves, as well as the curtains of the mitral valve, were healthy; so that we have in the case of the mitral, as well as the pulmonary murmur, to seek for the cause in some derangement unconnected with the structure of the valves. As the persistent and coarse pulmonary murmur appears to have been due to narrowing of the arterial channel by the joint influence of the cancerous growth and the indurated and incumbent lung, the mitral murmur may be assumed to have been due to the arrest of the pulmonary circulation and the consequent diminution of the blood-current that reached the left side of the heart. Much stress, however, cannot be laid upon the mitral murmur, because it was not constant, and because, under the circumstances, it might be explained by propagation of the pulmonary murmur downwards.

"Although the case just related is in its particulars an unusual one, it serves to illustrate the mode in which, no doubt often, persistent pulmonary murmurs are produced,—namely, by pressure from morbid bronchial glands behind, and by pressure of a superincumbent portion of indurated and hypertrophied lung from before. If these circumstances are conjoined, we are likely to find the murmur at all times and in postures of the body; where only one exists at a time, change

of posture, as in the young gentleman alluded to, will probably cause the murmur to cease, or materially modify it—a result not brought about in aortic or mitral disease. The character of the murmur does not suffice to establish the diagnosis. Within the last fortnight a young woman of tolerably healthy aspect, who came to me with cardiac symptoms, exhibited so loud and well-marked a pulmonary bruit, that it seemed necessarily to result from a change in the calibre of the channel through which the blood passed; the entire absence of dulness on percussion forbade the idea of there being any tubercular deposit, yet I was not prepared for the complete disappearance of the murmur when I examined her a few days after the first consultation. Here the explanation may, perhaps, lie in an anæmic condition of the blood.

"It has not been my object in this communication to exhaust the topic of pulmonary murmurs, therefore I do not now inquire into other extraneous influences which, doubtless, may induce them; as, for instance, pericardial effusion, aortic dilatation, morbid growths in the anterior mediastinum, and the like.

"In conclusion, I would observe that the main practical interest of murmurs produced in the pulmonary artery is dependent upon their connection with the early stage of phthisis, and in this respect I would especially press the matter upon your notice."

ART. 60.—*On a new Auscultatory Sound.* By Dr. BENJAMIN W. RICHARDSON, Physician to the Royal Infirmary for Diseases of the Chest.

(*Medical Times and Gazette*, Feb. 25, 1860.)

The sound described in this communication is a compound sound, produced by the impulse of the heart upon a portion of inflated lung bound over the surface of the heart by adhesion.

"From the year 1851 to 1854," says Dr. Richardson, "I was almost daily in attendance upon a lady who suffered from dilatation of the bronchial tubes, and emphysema of the right lung, attended with frequent attacks of urgent dyspnoea. In the last year of her life there appeared, without any acute premonitory symptoms, a well-marked systolic regurgitant murmur, succeeded by general symptoms of dropsy. For some time the abnormal heart sounds continued without modification. The mitral murmur was fully pronounced and heard most distinctly towards the apex of the heart, the diastolic sound was perfectly normal and clear over the base. About six weeks before death, after the subsidence of a very severe attack of dyspnoea, during which the act of auscultation was insupportable, I was surprised on going over the region of the heart again at meeting with a sound, which was not only new to this special case, but new to my ear altogether. The systolic rasp was present as before; it was most distinct three inches below the shrunk nipple, bearing a little to the left side. The clear diastolic sound was still perfect; it was distinctly heard about an inch above the nipple, upwards in a straight line. But, one inch below the nipple, and bearing to the left,"

was a superficial sound which

could be localised by the mouth of a large stethoscope; and which, when present, obscured the other abnormal sound altogether at that single point of observation. The sound was so superficial, that it seemed directly beneath the stethoscope, or if the ear were applied, immediately in contact with the ear. It was not a friction sound, it was not a murmur, it was not a crepitation; it was rather a crackling coarse sound, resembling somewhat the burning of dried gorse, or the tearing of a piece of calico. The period of the sound was peculiar; it was irregular as to time, so that sometimes with the stethoscope over the one spot where it was marked, it would be found absent for one entire action or more of the heart, during which action the systolic murmur and the normal diastolic *dup* were distinct. The observation of an occasional absence led me ultimately to the cause of the sound. When the sound did appear, it was synchronous with the systolic murmur, and clouded it; the second clear sound followed unchanged. After a little inquiry, I found that the sound was in some measure influenced by the respiration; this influence resolved itself into the following facts: When the patient expired, and forcibly opposed the refilling of the chest with air, the new cardiac sound was absent altogether. When the patient made a deep inspiration, and held the breath, the sound was produced during that time by every systole of the heart. At the beginning of an ordinary respiratory act, the sound became elicited; at the acme of inspiration it was most marked; towards the close of expiration it was feeble or lost altogether. To distinguish these differences, nevertheless, a well-marked respiration was necessary. When the respiration was quick and feeble, the new cardiac sound was always present with the systole. The late Dr. Snow saw this case with me, and confirmed, on two occasions, all the facts I have named.

"The second illustration of this sound occurred to me in a case which I attended in conjunction with Mr. Gaskell, of Chelsea. The patient was a young gentleman, æt. 21, who—after an acute inflammatory attack, partaking rather of the character of an intermittent than of rheumatism, but implicating the endocardium—suffered from the effects of chronic endocardial mischief. When I saw him, three months before death, I diagnosed mitral and aortic disease, with hypertrophy as well as tubercle of the left lung. I saw him weekly, Mr. Gaskell attending in the interval. During one of the intervals the patient had an acute attack of pleuritic pain on the left side, which lasted four days, and embarrassed the breathing very considerably. On examining the chest at my next visit, I was struck at finding an exocardial sound, identical in character with that I have described above. The sound was again situated at the base of the heart, and to the left side. As before, it was superficial, local, an accompaniment of the systole, painfully distinct, and subject to similar modifications, as in the last-named case, during inspiration and expiration. Mr. Gaskell and I often observed this sound for several minutes at a time. I put an iodine mark round the spot externally where the sound was localised. The ring described the seat of the sound till the death.

"The third case in which I met with the sound was in a child, brought to me at the Royal Infirmary for Diseases of the Chest. This child

was the subject of the clinical effects of bronchopneumonia. The child was brought to the Infirmary on the 12th of January, 1907, with a history of the heart. The ordinary systolic and diastolic sounds were in the case unaltered by murmur. The exspirations and expirations again at the base of the heart bearing to the left side. It was coincident with the systole, and was also governed by the respiration; but, as the child could not be taught to inspire and expire by rule, that governance was less well defined. Unfortunately, I am unable to follow the history of this case further. The child either died or was taken elsewhere. She was brought to the Infirmary but that once.

"To return to the first two examples: The connexion I had observed in the first example, between the respiration and the ex-cardiac sound, led me at length to the conclusion that the sound was a compound of two acts—one respiratory, the other cardiac. It occurred to me that a portion of the left lung at the point where it partially covered the left side of the heart had been drawn by pleuritic adhesion, and bound down to the thoracic wall immediately over the heart; that the piece of lung thus placed was subjected to the impulse of the heart during systole, and that when inflated the sudden compression produced by the impulse elicited the sound by forcible extrusion of the air from the air-vesicles. I explained this new to Dr. Snow, and he was struck by it entirely.

"Both the two first cases ended fatally and with symptoms appearing six weeks after the occurrence of the excruciating pain in the chest. This was truly remarkable. The last patient died in the same manner, the second fatal suddenly some thing like a set of circumstances in the passing circumstance.

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lung to the pericardium; but a piece of lung, from the left lower margin of the left lobe, two inches long, and tongue-shaped, was dragged obliquely from above downwards over the heart, by a membranous band, which also was firmly attached to the thoracic wall, close to the sternum. The portion of this lung passing over the heart was compressed into a hollow on the under surface, and its substance was condensed. The centre of the compressed point corresponded with the external ring which I had marked on the thorax; it was immediately beneath the ring.

"In this post-mortem I placed a tube in the trachea, and made an assistant inflate the lung, while I extended the portion of compressed lung in the line in which it had been bound; then, when the whole lung was full of air, I forcibly compressed the tongue of lung with my free hand, and holding the stethoscope between the back of the compressing hand and the ear, I elicited with each contraction the precise sound I had heard during the life of the patient."

(c) CONCERNING THE CIRCULATORY SYSTEM.

ART. 61.—*On Pericarditis.*

By Dr. GAIRDNER, Physician to the Royal Infirmary at Edinburgh.

(*Edinburgh Medical Journal*, Feb., 1860.)

The principal results of Dr. Gairdner's inquiries are:—

1. That general and severe pericarditis—*i.e.*, pericarditis attended with copious deposit of fibrin on every part of the membrane—commonly ends in adhesion.
2. That local exudation from mild pericarditis, and from the slighter forms of disease of the pericardium, may end in the production of local lymph-patches, or in local adhesions of greater or less extent (as described by Mr. Paget).
3. That pericarditis, ending in *considerable* adhesion, occurs, at one period or other of life, in from two to three per cent., of the patients that form the hospital population of Edinburgh, and that die in hospital.
4. That *less* considerable adhesions (not clinically important) occur in about five per cent. more (making altogether adhesions present in about eight per cent. of the hospital population that die from all causes).
5. That lymph-patches, chiefly on the surface of the right ventricle, or mere threads of adhesion at the extreme base (indicating the previous occurrence of morbid processes of a more local kind and of lesser intensity), occur in not less than a *third* of all the patients who die in Edinburgh Royal Infirmary.
6. That acute pericarditis, in actual progress, occurs in about six per cent. of the fatal cases; but that in very many of these cases it is slight, and in almost all of them subordinate to other grave constitutional or local diseases; so that primary and uncomplicated fatal pericarditis is a disease of exceedingly small mortality.
7. That the healing or repair of pericarditis by adhesion, or by lymph-patches, must be regarded as a greatly more frequent event

Dr. Parrot's treatment has been directed towards combating the neuralgia during the seizures, and the strumous and chlorotic diathesis during the intervals. The former object he obtained best by chloroform inhalations, the latter he pursued by the exhibition of preparations of iodine and iron. After detailing the above case, the author goes with some minuteness into the history and pathology of the affection; he concludes with regard to the latter, that it is truly a secretion of blood from the sweat ducts, as evidenced by microscopic examination of the liquid, and close watching the surface from which the exudation takes place. He quotes several cases, the best and most complete of which is given by Professor Huss. We can only make room for one remark as a warning, that these cases are quite distinct from those known as "bleeders," and characterised by the occurrence of hæmorrhage, which is almost impossible to arrest, from any part of the body on the slightest abrasion.

ART. 63.—Case of Aneurism of the Abdominal Aorta arrested in its progress. By Mr. SOLLY, Surgeon to St. Thomas's Hospital.

(*Proceedings of the Royal Med. and Chir. Society*, Nov. 8, 1859.)

CASE.—Mr. Solly was sent for on October 16th, 1855, to see Captain W—, æt. about 30. He was suffering great agony, which he referred to the epigastric region; it was not much increased by manual pressure, but he could not lie flat on his back without additional suffering. Mr. Solly ordered a dose of croton oil; and as soon as the bowels had acted freely, a grain of morphia, with three drops of tincture of aconite in water, every three hours. Four years and a half previously, he first suffered from pain in his abdomen, when following the hounds on a young and very unruly horse. When he arrived at home in the evening, this pain continued so acute as to oblige him at once to go to bed. Since that time, he had never been thoroughly well. But he said that he did not really suffer much until the last six months, when, the pains becoming more frequent, he consulted a London surgeon, who ordered him mercury with sarsaparilla, and friction to the back, telling him that he considered his affection spinal. These means seemed of some service; but on a hurried journey to Ireland, all his symptoms returned. The pains extended through the abdomen to the back and chest. He had frequent nausea, and at times vomiting, and almost always pain in the stomach after food, solid or liquid. In a letter, dated October 18th, Dr. Gibney, of Cheltenham, under whose care the patient had been, intimated the probability of the case being one of aneurism of the celiac axis. On October 19th, Mr. Solly met Dr. Watson in consultation. The patient was much relieved by the croton oil, and he had had a good night's rest. On examination, there was found to be a distinct pulsating tumour a little above the umbilicus, at about the bifurcation of the aorta. This pulsation was felt not merely from behind forwards but laterally also. This fact had also been observed by Dr. Watson on his previous examination; and to both it was the confirming point in the conclusion. On listening carefully, there was heard, both with and without the stethoscope, a distinct *bruit de soufflet*. Neither Dr. Watson nor Mr. Solly had now any doubt that the tumour was an abdominal aneurism. The urine, examined by Mr. W. Tyrrell, was "pale, with a white sediment suspended in a small quantity of mucus, exhibiting under the microscope crystals of oxalate of lime." On October 29th, Mr.

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the idea that he had no aneurism, had recommenced his hunting, driving four-in-hand, &c.; and thus he continued, until he died suddenly, on August 8th last, when under the care of Dr. Hoffmeister, of Cowes, who, with Dr. Cass, made a *post-mortem* examination. Dr. Hoffmeister had been attending Captain W— for a week previously, during the whole of which time he had been suffering from very severe pain in the back and abdomen; there was marked abdominal pulsation, with a loud bellows murmur; he was occasionally soothed by opiates and chloroform. On visiting him one day, just after noon, he found him pallid and dying. It appeared that, the bowels having acted, he lay down in bed, and immediately afterwards called out from the agony of the pain, and suddenly became deadly pale and faint. The cause of Capt. W—'s death was, on *post-mortem* examination, found to have been the bursting of an aneurism of the abdominal aorta, immediately above its bifurcation, nearly four inches in length and between two and three in breadth, the rupture taking place by a small opening at the back part of the aneurism, a little to the inner side, and just above the origin of the left iliac artery. The coats of the aneurism, at the lower part, were plated with ossific deposits, and there were also fibrinous deposits. The cellular tissue behind the viscera was very extensively infiltrated with coagulated blood. The vertebrae were not diseased. Mr. Solly thought that if the patient had pursued the same plans by which the character of the aneurism was so much altered that eminent medical men doubted its existence, he might have lived many years; that the sac might have become firmly consolidated, its cavity obliterated, and the fatal termination averted.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 64.—*Report of the Diphtheria sub-Committee of the Epidemiological Society.*

(*Lancet*, Jan. 7, 1860.)

This report begins by stating that, although in February last upwards of 200 circulars, asking for information, and containing suggestions for observation, had been distributed amongst the members of the Society and others in various parts of the kingdom; and notwithstanding that the aid of the profession generally, in the inquiry, had been sought through the medical journals, the Committee had received, during a period of ten months, only thirteen specific reports, and twenty-eight general replies. Hence, the results of the inquiry were entirely insufficient to form a basis for a general history of the rise and progress of diphtheria in the kingdom. Nevertheless, the information which has been received respecting the disease is not without value,—first, from the additional light which is thrown, in several respects, upon the development of the epidemic; and, secondly, as showing the highly important knowledge which might be obtained respecting epidemic diseases from an inquiry such as that conducted by the Committee, if it were generally supported by the members (particularly the non-resident members) of the Society. The facts of chief importance which have been ascertained by this inquiry may be summed up thus:—

1st. The probable occurrence of sporadic diphtheria in the counties

of Kent and Essex in the years 1853 and 1854; also in different parts of the kingdom at intervals within the last twenty years.

2d. The unusual prevalence of throat affections of all kinds, and not unfrequently of a peculiar kind, which might be described as of a *quasi* diphtheric character, prior to or contemporaneously with the present epidemic of diphtheria.

3d. The concurrent or intercurrent prevalence, in the same locality, of epidemic diphtheria with epidemic scarlet fever, and the occasional occurrence of a diphtheric affection of the fauces in scarlet fever.

The whole of these facts have an important bearing upon the history of the development of the present epidemic of diphtheria:—1st, in reference to the introduction of the disease into the kingdom from without; 2d, in reference to the causes which have led to the development of the epidemic; 3d, in reference to the relation of the disease to cognate affections and to scarlet fever. Upon all these points the foregoing facts are valuable as suggestive of further inquiry, and as indicating the direction in which that inquiry should tend, as well in those districts in which the epidemic has prevailed as in those in which it now prevails.

4th. The doubtful contagiousness of the disease in some districts; its *undoubted* contagiousness in others.

5th. The insanitary state of the majority of the localities in which the disease occurred.

6th. The greater liability to the disease being in the first decennium, or, to narrow the question, the second quinquennium of life.

7th. The proportion of *males* in 100 cases being 42·3; of *females*, 58·2.

8th. The nature of the treatment indicated:—(1) The application of more or less stimulating or caustic applications to the diseased parts. (2) The regulation of the excretions. (3) The *sustentation* of the powers of the system.

In concluding their Report, the Committee remarked that, although the information obtained by them in the present inquiry was exceedingly imperfect, yet it was sufficient to show that, if the inquiry had been supported by the members of the Society to the extent that the Committee had hoped that it would have been, a large amount of most valuable information respecting diphtheria would have been obtained—information of a character that could be obtained in no other manner than by the systematic co-operation of many and widely separated observers to one and the same end. The Committee suggested that the Society should take into consideration the propriety of adopting other and additional means (if such could be devised) for promoting or ensuring the more satisfactory co-operation of its members in such inquiries as the Society may set on foot; for the Committee felt assured that the present inquiry had proved in a great measure abortive, not so much from indisposition of the members to aid, as from an erroneous estimate of the value of the information which they possessed relative to the subject of inquiry. Thus, it was stated that in the majority of letters with which the Committee had been favoured, in answer to their circular, the writers had contented themselves simply with stating that diphtheria had not appeared in

their neighbourhood, or that they had seen but one or two cases of the disease, and consequently their experience would be of no value to the Committee; yet the Committee had specifically asked for particular information respecting the prevailing character of throat affections where the disease had not manifested itself, and for many items of information where it had, even if it were but in a solitary instance.

The Committee further suggested, in respect to the present inquiry, that additional information should be specially sought concerning:—

1. The date of the first case or cases of diphtheria which occurred in any district.

2. The occurrence of diphtheria in a sporadic or epidemic form prior to the present outbreak.

3. The character of the throat affections which occurred contemporary with diphtheria, or, that disease being absent, the character of the throat affections which had been observed immediately prior to its appearance in 1857 and subsequently.

4. The relationship existing between diphtheria and scarlet fever. If the suggestions of the Committee respecting any further inquiry were adopted by the members, the Committee expressed a willingness to continue their duties some time longer, notwithstanding the disheartening results which had attended them hitherto.

ART. 65.—On the relation of Albuminuria to Diphtheritic Sore-throat.

By Dr. SANDERSON, Assistant-Physician to the Hospital for Consumption at Brompton, &c.

(*Med.-Chir. Review*, Jan., 1860.)

The first discovery of the relation of albuminuria to diphtheria seems to be referable to a case recorded by Mr. Wade, of Birmingham, and communicated by him to the Queen's College Medico-Chirurgical Society in December, 1857, and subsequently published in his very original 'Observations on Diphtheria.' During the following year, MM. Bouchut and Empis made a similar discovery in Paris, founded on fifteen cases, in twelve of which there was albuminuria. Both of these observers attach very great importance to the renal complication as affording an anatomical explanation of the fact that, in many cases of diphtheria in which death occurs by neither of the two modes already referred to—those by suffocation and septic poisoning—it cannot possibly be attributed to anything in the local condition. On this point M. Bouchut arrives at very decided conclusions: "Albuminuria," says he, "in the absence of scarlatina or asphyxia (dependent on laryngeal obstruction), is a sign in diphtheritic diseases of a commencement of purulent infection, and coincides with a very great gravity of the disease." This conclusion he founds on the observation of two facts—viz., 1. The alteration of the colour of the blood, which assumes the tinge of bistre. 2. The existence of more or less numerous masses of pulmonary apoplexy, resembling those which precede the development of metastatic abscesses in the lungs, or of ecchymoses of purpura of the skin, the serous membranes, and the viscera.

In the summary of this paper which has recently appeared, no information is given as to the number of cases in which these changes were observed.

Mr. Wade is of opinion that albuminuria produces a diminution in the total amount of solid excreta; or, in other words, that the special functions of the kidney are suspended, and that by reason of this, symptoms arise which are indicative "of the retention within the body of those matters which should be excreted."

The facts which Dr. Sanderson adduces, although too few to form the basis of an inference as to the true prognostic value of albuminuria, are yet sufficient to show that neither of these doctrines is admissible. In eight cases in which he had the opportunity of making repeated observations as to the condition of the urine, the only ones which have occurred to him since his attention has been directed to the subject, it has been albuminous in all. The following is a summary of the facts observed in each of these cases relating to the occurrence of this symptom.

CASE 1.—R. T—, female, æt. 11: albuminuria appeared the second day of disease, lasted till termination of case; abundant, accompanied with waxy casts.

General character of symptoms.—Grave throughout; fever at onset, followed by extreme adynamia; abundant faucial concretions; no ulceration; concretion granular.

Result.—Death by adynamia. Post-mortem refused.

CASE 2.—A. B—, female, æt. 16: albuminuria first observed the third day, disappeared after the fourth; abundant; waxy casts.

General character of symptoms.—Grave; relapse after albuminuria had ceased; concretion granular, superficial.

Result.—Recovery. No sequelæ.

CASE 3.—M. R—, female, æt. 39: albuminuria appeared the first day; abundant at first, subsequently accompanied with hæmaturia; both diminished rapidly after the sixth day; waxy casts at first, subsequently casts containing epithelium and blood corpuscles.

General character of symptoms.—Slight throughout; no marked depression; concretion granular, limited to tonsils; principal complaint of lumbar pain.

Result.—Recovery. No sequelæ, but persistence in urine of small quantity of albumen.

CASE 4.—S. B—, female, æt. 4: albuminuria first observed the third day; lasted till termination; abundant.

General character of symptoms.—Grave; adynamia, followed by symptoms of extension of concretion to larynx; concretion fibrinous.

Result.—Death by croup at sixth day.

CASE 5.—M. F—, female, æt. 15: albuminuria appeared abundantly the second day; disappeared the fifth day, diminishing gradually.

General character of symptoms.—Slight throughout; extensive granular faucial concretion; consecutive ulceration.

Result.—Recovery. No sequelæ.

CASE 6.—W. D—, male, æt. 30: albuminuria first observed about the eighth day; disappeared three days after; abundant.

General character of symptoms.—Extremely grave; intense adynamia, with nervous agitation and busy delirium. Concretion not examined.

Result.—Recovery. ~~Slow~~ convalescence, with extreme muscular weakness,

CASE 7.—E. S—, female, æt. 10: albuminuria first observed the seventh day, and continued till termination.

General character of symptoms.—Extremely grave; excessive prostration, with coldness of surface; concretion extending over tonsils, uvula, soft palate, of great thickness.

Result.—Death by adynamia at the tenth day.

CASE 8.—M. A—, female, æt. 15: albuminuria first seen the eighteenth day: albumen abundant; continued till termination.

General character of symptoms.—Grave; gradual exhaustion; extreme adenitic swelling with suppuration.

Result.—Death by exhaustion at the twenty-fourth day.

Although, in several of the cases above related, the cessation of albuminuria was clearly coincident with the amelioration of the patient and the disappearance of the most alarming symptoms, it is not less certain that in one or two others albumen existed in large quantities in the urine, although the cases maintained a mild character throughout. From this it may be inferred that albuminuria is not in itself so alarming a symptom as M. Bouchut is inclined to imagine.

The early period of the disease at which the albumen appears, and the short time during which it lasts, are facts full of importance. In the case No. 3 the urine was found loaded with albumen eighteen hours after the patient had been apparently in perfect health, the exudation having already appeared on one tonsil. It scarcely needs to be pointed out that such a fact as this does not admit of being attributed to a secondary dyscrasia approaching in its nature to purulent infection. A morbid change of the blood of this nature could only originate *consequently* on a previous local change, and could not exist without being accompanied by easily recognised constitutional symptoms. Setting this aside, the fact only admits of two explanations—either the kidneys must be the seat of the primary morbid process, or the albuminuria must depend on an original change in the blood. The first supposition is rendered inadmissible by the coincidence of the renal affection with disease elsewhere, that is, in the fauces; so that we are compelled to conclude that the special morbid blood poison is the primary cause not only of the albuminuria but of all the other symptoms. This cannot be better illustrated than by comparing the poison of diphtheria to that of cantharides, which, from the moment that it enters the circulation, manifests its presence by albuminuria, and produces a series of anatomical changes in the kidney which are identical, as my own observations show, with those described by Mr. Simon and Dr. Bristowe in diphtheria.

As it appeared to the author of importance to ascertain whether the existence of albuminuria coincides with the diminution of the solid excreta of the urine, and especially of the urea, he repeatedly sought for the opportunity of determining the question. Owing to the extreme difficulty of meeting with suitable cases, and collecting the urine without loss, the author is only able to offer one satisfactory observation, the subject of which is Case No. 6 in the above series.

W. D—, æt. 30, was admitted into St. Mary's Hospital, under the care of Dr. Sibson, September 9th, 1859, about the third day after the first symptoms of the disease. He was suffering from sore throat,

dysphagia, and considerable depression. Pulse 90. He was ordered quina in grain doses every three hours, beef-tea *ad libitum*, and brandy ten ounces. During the four succeeding days he became progressively worse, and when Dr. S. saw him on September 13th, his condition was thus noted:—The aspect of the patient is that of impending delirium tremens; the expression is anxious and alarmed; the conjunctivæ are a little injected; the hands in constant tremulous movement, being passed alternately under and over each other; the tongue is bare, red, and is protruded tremulously; pulse 104, soft but regular; respiration 28. The mucous membrane of the fauces is everywhere intensely red and raw-looking, and exhibits here and there small patches of concretion. The lateral walls of the pharynx are covered as far as they can be seen.

14th.—General condition of patient as before, but the expression of alarm is less observable; great pain in swallowing; on attempting to sit up he becomes rapidly exhausted; pulse 88; respiration 26; no concretion on fauces; pharynx as before.

15th.—General aspect of patient worse; tongue red, dry, and shrivelled; skin warm and moist; answers questions more unwillingly than before; the exudation extends further backwards than yesterday, covering great part of the posterior wall of pharynx; pulse 93; respiration 20.

16th.—Aspect improved; tongue moist, covered with a thin white fur; movement of hands diminished. The concretion no longer forms a continuous coating over the pharynx, but is in patches, between which the mucous membrane is exposed.

The next day there was still further improvement, and the albuminuria, which had existed up to this time, disappeared. During this period the following observations were made as to the condition of the urine. The two quantities analysed were collected continuously for twenty-four hours.

	Sept. 15th.	Sept. 16th.	Means.
Quantity in cubic centimetres	1599	1391	1495
Specific gravity	1019	1020	1019
Per-centage of urea	2.88	2.85	2.86
Grammes of urea in 24 hours	46.05	36.0	41.02
Per-centage of chlorides .....	.29	.26	.27
Grammes of chlorides in 24 hours.....	4.6	3.3	3.9
Albumen abundant in both cases.			

During the period of observation there was complete anorexia, the patient took only an undetermined but small quantity of beef-tea.

For the purpose of comparison with these observations Dr. Sanderson made three other analyses after the establishment of convalescence, at which period his general condition is noted as follows:—Countenance pale and thin; marked muscular weakness as evidenced by his tottering gait and the feebleness of his gress, and his complaints of aching in his thighs and instep after very light exertion. Tongue red and raw with white fur at base; pulse from 60 to 66; everything natural. His diet during his convalescence consisted of beef-tea, soup, in considerable quantities, which he ate with relish, and also with chop and rice, pudding and custard.

	Oct. 18th.	Oct. 19th.	Oct. 20th.	Means.
Quantity in cubic centimetres ...	1901	1882	1864	1882
Specific gravity	1011	1012	1011	1011
Per-centage of urea	1·16	1·08	1·12	1·12
Grammes of urea in 24 hours ...	22·05	20·32	20·88	21·08
Per-centage of chlorides	—	·27	·45	·31
Grammes of chlorides in 24 hours	—	5·08	8·4	6·7

It thus appears that at the acme of the disease, when the urine was intensely albuminous, when there was complete anorexia, and the ingesta were reduced to a minimum, the quantity of urea excreted in a period of twenty-four hours was about twice as great as that excreted during a similar period when convalescence was established, and he was eating with an appetite the ordinary diet of the hospital, with extras.

The above facts show that diphtheria agrees with the other pyrexia in being attended with a marked increase in the excretion of urea, and that the existence in the kidney of the condition which is implied by albumen and fibrinous casts in the urine does not necessarily interfere with that increase in the elimination of nitrogenous material. There is, therefore, no reason to apprehend the occurrence of uræmia as a consequence of the renal complication in diphtheria; this complication not being the cause of the dyscrasia, but merely the index of its existence.

ART. 66.—*On Diphtheritic Paralysis.* By Dr. MAINGAULT.

(*Archiv. Gén. de Méd.*, Nov. and Dec., 1859.)

The numerous facts collected in this memoir show very clearly that there is a variety of paralysis supervening upon diphtheria, which deserves the name of *diphtheritic paralysis*. This affection may be local paralysis of the velum palati or pharynx. Frequently, also, it fixes upon distant parts, sometimes upon the lower limbs exclusively (paraplegia), sometimes upon the limbs and trunk generally, sometimes upon the eye singly. Its development may be sudden or progressive. There is no necessary connexion between the severity of the diphtheritic affection and the extent and gravity of the paralysis, for in some cases profound and extensive paralysis has supervened upon a most benignant form of diphtheria. Nor can albuminuria be looked upon as the determining cause of the paralysis, for in some cases the urine was perfectly free from albumen. As yet, also, the scalpel has failed to detect anything abnormal in the condition of the nervous centres.

Where the affection is general, the termination may be fatal; but the usual course is for the paralytic symptoms to pass off in a period varying from two to eight months.

ART. 67.—*On the Etiology and Treatment of Peritonitis.*
By Dr. HABERSHON, Assistant-Physician to Guy's Hospital, &c.

(Proceedings of the Royal Med. and Chir. Soc., Dec. 13, 1850.)

The author of this communication first alludes to the value of a knowledge of the causes of disease as a guide to right treatment, and to the importance of considering local disease as connected with a constitutional or general origin. In reference to peritonitis, he remarks that, although written and spoken of as an idiopathic disease, we do not find any proof that the malady really existed in that character. An analysis of the records of 3752 inspections after death at Guy's Hospital, and extending over a period of twenty-five years, is brought forward as confirming this statement, and as an indication of the general plans of treatment. 501 instances of peritonitis are divided—First, into those in which the disease is set up by mischief extending to the peritoneum from without, as from adjoining viscera, injury, or perforation; secondly, those which might be called blood-diseases, connected with albuminuria, with pyæmia, or puerperal fever or erysipelas; and thirdly, those in which general nutritive change in the system is followed by acute or chronic peritonitis, as in struma or cancer, or after continued hyperæmia of the capillaries of the serous membrane, as in disease of the liver or heart, where very slight exciting cause suffices to produce acute mischief. Of the *first* division, there are 266 instances, and 102 of these arose from internal or external hernia, or mechanical obstructions, and in 19 of the internal kind. Reference is made to the mode in which the extreme tension of the intestine leads to intense congestion of the mucous membrane, diphtheritic inflammation, and ulceration in the direction of greatest tension, leading to perforation in many cases. Different modes of treatment that have been used are referred to, and the use of opium alone advocated; the addition of calomel, as tending to increase the changes of the mucous membrane just mentioned, without any corresponding benefit, should preclude its use. 35 are injuries or operations directly affecting the serous membrane, and in 14 had followed tapping; many injuries of the abdominal viscera proving fatal in a very short time; this number was lower than might be expected. The value of rest and of opium in all these cases, as recommended by Dr. Stokes and Dr. Graves in the treatment of perforation, is dwelt upon, as well as the injury that would result from mercury in tending to prevent localisation of the mischief and increased depression. 56 were perforation of the intestine; 10 from hernia, 9 from the appendix cæci, 2 from the cæcum, 4 from cancerous disease of the colon, 9 from disease of the stomach, 15 from typhoid disease of the ileum, 4 from struma, 2 from ovarian adhesions, and 1 from cancerous disease of the vagina. In 5 other cases of fever, peritonitis had resulted, in two of which the perforation was not complete; 1 was of doubtful character, for the ulceration of the ileum was slight, and phthisis was also present. In 19 cases, fæcal abscess had taken place. In 42 cases the peritonitis was caused by extension of disease from the bladder, uterus, or pelvic viscera: thus,

10 from lithotomy, 6 from ovarian disease, and 14 from calculus in the bladder, cystitis, or stricture. In 11 cases, disease of the liver or gall-bladder had led to direct extension of disease to the serous membrane, and in 3 other cases it followed acute inflammatory disease of the colon, and from disease of the cæcum, not previously mentioned, in three instances. Thus 261 cases from the 501 were produced by disease not commencing in the serous membrane, but propagated to it from adjoining parts; and the author states that in each of these instances, as far as medicinal treatment could be of service, he believed that the plan suggested by Drs. Stokes and Graves in instances of perforation of the stomach was of the greatest value, in promoting rest to the intestines, the localisation of the mischief, and the acceleration of reparative changes; in many instances that local depletion and the external application of anodyne remedies might be combined with advantage; but that mercury, in the form of grey powder or calomel with opium, was injurious rather than otherwise, as tending to prevent adhesions, exciting action from the bowels, or rendering their contents more fluid, and increasing the depressing effects of the disease on the nervous system. The *second* class of cases consisted of those in which peritonitis was set up by a changed condition of the blood, as in albuminuria, pyæmia, &c. Sixty-three instances were connected with Bright's disease, and in nearly all of an acute kind. It is stated that the peritoneum was rarely the only serous membrane affected. The treatment of the general disease was regarded as best calculated to remove the local affection, assisted sometimes by counter-irritants; but that the ready salivation produced by mercurials did not afford corresponding benefits. Ten were puerperal in their origin; in 13 pyæmia following operations, local suppuration; and 5 others were with erysipelas. Instances were alluded to in which serous membranes became simultaneously affected; perhaps pyæmic, or rheumatic, or from renal disease; and 3 of these were mentioned, one where peritonitis was connected with pericarditis and pleurisy, a second with pneumonia and dysentery, and a third with pericarditis, pleuro-pneumonia, and obscure renal mischief. As to the treatment of these cases, it was regarded that the local affection must be almost lost sight of in the general treatment, and that local depletion and mercurial preparations would not promote the cure in such instances. The *third* class of peritonitis were those connected with general nutritive changes, as cancer, struma, &c., or where, with continued hyperæmia of the peritoneal capillaries in cirrhosis, or heart disease, a very slight exciting cause suffices to produce acute disease. 70 cases rose with struma, 22 acute and 48 chronic and acute. The varieties of the strumous form of disease are mentioned, leading sometimes to serous effusions, to general adhesions, to perforation, or fecal abscess. The ages are stated not to be limited to early life, many occurring between 30 and 40 years of age. It is urged that in all these cases the same general rules of treatment should be observed as in ordinary strumous disease, sometimes assisted by counter-irritants, very cautious local depletion, anodyne applications and opium; but the avoidance of purgatives and of mercurial preparations is recommended. 40 instances of

peritonitis with cancer, besides those already mentioned, are next referred to, 9 in males, and 31 in females. In men, glandular organs were generally affected; and, in women, the ovaries or uterus; but, in 20 instances, the disease consisted of tubercles upon the peritoneum, generally with dropsical effusion: 19 of these were women, and 1 a man; the average age of the former 52, and evidently coming on after the cessation of ovarian functional activity. The inutility of diuretics, and the inadvisability of depressing measures, as mercurials, were spoken of; and it is stated that paracentesis was often followed by increased effusion of lymph, and the best treatment consisted in sustaining the ebbing powers of life by every means in our power. The last cases are those of peritonitis associated with hepatic or heart disease. In 32 of this hepatic complication, 14 were chronic, 12 acute, and 6 acute and chronic. 5 had been previously referred to as rendered acute by tapping. In some instances pneumonia was present, and slight exposures to cold and wet evidently sufficed to induce acute changes. The degenerative arterial changes often found with cirrhosis are mentioned, and that this chronic state should be borne in mind in the treatment of the acute disease. It is stated that, in early cirrhosis, the usual treatment of peritonitis by calomel and opium was more serviceable than in any other form of peritoneal disease, on account of the stimulating effect of mercurials on the glandular organs of the abdomen; but that even here it was not necessary to produce salivation to ensure the beneficial effects. 9 cases were connected with heart disease. The general causes of peritonitis were:

From hernia (19 being internal)	102
" injuries; operations, as tapping, &c.	35
" perforations of stomach, ileum, cæcum, appendix, colon, &c. (other 13 included under hernia, &c.).	43
And leading to fecal abscess (2 otherwise mentioned)	17
" ulceration, with fever, without perforation	5
" disease of the bladder or pelvic viscera; operations, as liotomy, &c.	12
" abscess of the liver, gall-stone, &c.	11
" acute disease of the colon	1
" other disease of the cæcum	1
	261
" Bright's disease	13
" pyæmia, puerperal fever, &c.	13
" strumous disease	10
" cancer (12 before mentioned)	9
" hepatic disease (and 5 acute, from tapping)	10
" heart disease	9

The author concludes with the following remarks:—The peritonitis is never idiopathic in its origin, and has on the most occasions been induced by any such instance as acute disease of the peritoneum, or by exposure to cold; in such cases, the peritonitis is always

acute an already existing morbid state. 2d. That the consideration of the origin of the disease, either in a local or general source, is the best guide to treatment; whether—first, from extension of disease from adjoining viscera, as the ovaries, bladder, intestines, perforations, or injuries; secondly, from blood changes, as occur in albuminuria, pyæmia, or erysipelas; and thirdly, from almost imperceptible changes, or deficiencies, in general health, as in struma, or cancer, or climacteric changes, or as a consequence of the hyperæmia of cirrhosis, or heart disease. 3d. That, in the first form, perfect rest, the avoidance of food as far as possible, and the mode of treatment recommended by Dr. Stokes, in producing rest to the intestinal canal and peristaltic action, and diminishing the collapse and prostration consequent on the disease—constitute the best mode of treatment; using, as far as need be, other means, as anodyne applications, local depletion; and, in many instances, also seeking to remove the exciting cause, as in cystic disease, &c. 4th. That where peritonitis is a symptom of blood change, as Bright's disease, pyæmia, &c., it may be best relieved by the treatment of the primary disease; but that here opium is sometimes of great value, and more effective without mercurial combination. 5th. That in the treatment of the third class, the consideration of the cause is also our best guide; that strumous and cancerous disease should be regarded in their general relations; and in those connected with hepatic disease, the remembrance of the condition prior to the supervention of the peritonitis should prevent us from using means calculated to increase the primary mischief; and that any benefit due to mercurial action may be attained without mercurial salivation. 6th. That, in general, the benefit ascribed to mercury in the treatment of peritonitis is not established, and may, perhaps, be correctly attributed to the opium with which it is combined.

ART. 68.—On the treatment of Peritonitis. By Dr. AUSTIN FLINT.

(*New Orleans Med. News and Hosp. Gaz.*; and *American Med. Monthly*, Jan., 1860)

Dr. Flint reports a case of peritonitis successfully treated with opium and enemas, in which the bowels were allowed to remain unmoved for eleven days. From his remarks we make the following extract: "Professor Clark has rendered a great service to practical medicine, and to humanity, by establishing the merits of this method of treating acute peritonitis. If pursued judiciously and boldly, a large proportion of the cases which, judged by former experience, would have otherwise ended fatally, are brought to a favorable termination. The greater success in the management, however, it must be confessed, may be in part owing to the discontinuance of measures which were injurious. In this light we must regard bloodletting and cathartics. As regards bloodletting, a fair and ready way of placing before the mind its theoretical applicability to the treatment of peritonitis is to consider the extent of surface inflamed in this disease, and the loss of blood-constituents involved in the exuded products of inflammation. The condition of a patient attacked with peritonitis is not unlike that

of a person after a scald or burn, extending over a large portion of the external surface of the body. The symptoms are analogous in the two cases, and death in both occurs by asthenia. Bleeding is as appropriate in the one case as in the other. Of cathartics it is only necessary to say that they conflict with the first and great indication in the treatment of all inflammations, viz., to maintain, as far as possible, repose of the parts inflamed. The value of opium in cases of peritonitis consists, in fact, of the arrest of the peristaltic movements of the intestines. These remedies have held so prominent a place in therapeutics for the last half century, that it requires some moral courage on the part of the practitioner to permit the bowels to remain constipated for a fortnight or longer, and to resist the importunities of patient and friends for opening medicine."

Commenting upon these remarks, the editor of the *American Medical Monthly* says, and in this we fully agree with him—"We cannot help thinking that a great and favorable change would be made in the mortality of this disease, were cathartics to be entirely ignored in the treatment of the great majority of cases."

ART. 69.—*Fatty degeneration and acute softening of the Liver, with Entorrhagia.* By Dr. L. MARCQ.

(*Annales de la Soc. Anat. Path. de Bruxelles*, Vol. 2, 1880; and *North American Medico-Chir. Rev.*, March, 1881.)

M. Marcq presented to the *Société Anatomique-Pathologique de Bruxelles*, in May last, a pathological specimen of diseased liver, on which he made some practical remarks. A young girl, apparently in perfect health, had suddenly been attacked with rigor and nausea, for which she could assign no cause. She soon after passed by the bowels a small quantity of blood. This condition of nausea and general indisposition lasted for several days, at the end of which time she was brought to the Hôpital Saint-Pierre, with intense headache: her abdomen was tympanitic, her hepatic region very painful. When Professor Uytterhoeven first saw her, she presented the appearance of a parturient woman at the commencement of puerperal intoxication, lying on her back, her limbs completely relaxed, her countenance expressing painful and profound prostration. Her general tone was that jaundiced tint by which malarious impression so often leaves its mark. She was conscious, although roused with difficulty to the proper attention. In the evening of the same day, the skin was cold, the pulse frequent but small, her desire to eat very great, and every evidence existing that the case was a rare form of affection, to which the attention of the hospital had not previously been directed. Professor Uytterhoeven had seen a similar case at the Hôpital St. Jean, and from his recollection of the pathological appearances then revealed, diagnosed this to be a form of acute softening of the liver.

The treatment adopted was more expectant than active. The sulphate of quinia, which at first suggested itself, was deemed too irritating in the existing condition of the alimentary passages. The next night the patient was after the appearance of the first

symptoms. On a post-mortem examination, thirty-six hours after death, the liver was found to be the only organ seriously affected. Its surface was adherent to the diaphragm, and covered with patches, the results of inflammation, which extended into the substance of the organ. The liver was intensely yellow, softened, and diffuent under pressure of the finger. Microscopic examination detected numerous fat globules swimming in an almost colourless liquid, and but few traces of the true substance of the organ. Nearly a quart of black, grumous blood was found in the stomach and intestines. In this case no atrophy of the liver occurred, although existing in the cases recorded up to that time. M. Marcq, therefore, prefers the name which forms the heading of this abstract to that of *acute atrophy*, which had previously been given to the disease.

English and German writers were the first to describe the pathology of this comparatively rare affection. The views of Dr. Fried. Frerichs are cited in regard to the symptomatology, pathological anatomy, and treatment of the affection; but the general summary presents, in different degrees of intensity, the same general symptoms as those described above, while the treatment seems to be founded more upon general principles than upon any specific modes of relief.

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ART. 70.—On puncture of hydatid cysts of the liver with the capillary trocar. By Dr. J. MOISSENET, Physician to the Lariboisière Hospital.

(*Archives Gén.*, Ferrier, Mars, Avril, 1859; and *Médecine-Chir. Review*, July, 1859.)

Having had the misfortune to lose a patient affected with a considerable hydatid cyst of the liver by peritonitis, resulting from a palliative puncture with the capillary trocar, the author enters upon a minute inquiry relative to the different methods which have been employed for the purpose of evacuating the liquid contents of the tumour and the subsequent destruction of the hydatids. He finds that experience justifies the simple puncture, provided there is no escape of the fluid contents into the peritoneal cavity. Récamier, Legroux, and Laugier, Owen Rees, Aran, Boinet, Robert, Cloquet, and others, have obtained successful results by puncture with a fine trocar. Cruveilhier, in speaking of Récamier's practice, warns against its general employment, unless adhesions can be proved to exist and the tumour presents a decided tendency to push outward. Dr. Moissenet brings forward several other cases besides his own which proved fatal. The first series of general conclusions that his analysis brings him to are:—

1. That the hydatid liquid, whether limpid or puriform, when poured into the peritoneum, whether as the result of accident or of an operation, induces acute or chronic inflammation, which is almost always, if not invariably, fatal.

2. That capillary puncture, though commonly not injurious, may induce effusion into the peritoneum of hydatid fluid, when there are no adhesions between the cystic and abdominal parietes; and that

this effusion has taken place when the puncture has been made for exploration or palliation only; that is, when the cyst has been imperfectly emptied.

3. That the puncture of hydatid cysts, whether made with a capillary or an ordinary sized trocar, may prove fatal by inducing inflammation of the cyst itself.

The second series of conclusions drawn by Dr. Moissenet are:—

1. That capillary puncture of a hydatid tumour, made even without the existence of adhesions, may be curative, when followed by as complete an evacuation of the liquid as possible.

2. That this result may be obtained by a single puncture, or by two or three successive punctures.

3. That the treatment commenced by capillary puncture must sometimes be completed by another method, as in the case of Dr. Owen Rees, in which a larger trocar was used at the third puncture, and a gum-elastic sound left in the orifice.

ART. 71.—Appendix Cæci discharged from the bowels, and recovery of the patient. By Dr. JACKSON.

(*Boston Med. and Surg. Journal*, Sept. 15, 1859; and *North American Med.-Chir. Rev.*, Jan., 1860.)

In the 'Proceedings of the Boston Society for Medical Improvement' for July 15th, may be found an interesting example of what must be an exceedingly rare affection. A robust farmer, æt. 24, had suffered from nausea and vomiting, distension and tenderness of the abdomen. Fears being entertained that peritonitis might occur, he was bled to the extent of a pint, but with little or no relief following. Calomel and opium, and a blister, were ordered; also a mild cathartic treatment. No movement of the bowels followed this mode of management, nor was the introduction of a tube as high up in the bowel as it could be carried attended with any better success. An infusion of tobacco (Oiv to a pint of water) thrown into the rectum, on the next morning, was followed by very great prostration, and by one or two small evacuations of a greenish mucus. On the next visit, Dr. Robbins, his attending physician, discovered an oblong tumour extending from above the spine of the right ilium nearly to the groin, to which a blister was directed to be applied. That evening, and for a day or two afterwards, the fecal evacuations became very numerous, and the tumour gradually diminished in size. About eight days after the first appearance of the tumour, and four days after the subsidence of the symptoms had led Dr. Robbins to discontinue his visits, a substance was passed which proved, on examination, to be the appendix cæci, in a fetid, gangrenous condition. Three years have elapsed since this portion of intestine was passed, and no symptoms of inconvenience or pain have followed.

In the discussion which this case elicited in the society before which it was brought by Dr. Jackson, the hypothesis was advanced that some foreign body had probably become impacted in the entrance of the

appendix, causing inflammation, obstruction of circulation, and ulceration, and finally a sloughing off of the affected portion. Dr. Jackson had never found, where the appendix was perforated, that the foreign body was at the entrance of the appendix, but midway.

ART. 72.—On Ulceration and Perforation of the Appendix Cæci.
By Dr. LEUDET, Rouen.

(*Archiv. Gen. de Méd.*, Aug. and Sept., 1859.)

In the course of three years, Dr. Leudet has met with no less than thirteen cases of perforation, and seventeen cases of ulceration, of the appendix cæci. He has also been at much pains in analysing the recorded experience of others in this affection. Comparing his own experience with that of others, the principal conclusions to which he is led are these:—

The appendix cæci is more frequently the seat of perforation than any other part of the intestinal tube—as frequently as all other parts of the intestinal tube put together.

Ulceration of the appendix, associated with ulceration of the cæcum, is frequent in phthisis, and also in chronic enteritis.

The causes of perforation of the appendix cæci are the ulcerations of enteritis, phthisis (six times in thirteen), typhoid and other fevers; and those produced by foreign bodies—hardened fæces, nails, pins, &c.

The consequences of perforation are general peritonitis (not oftener than once in forty-three instances), local peritonitis, adhesive abscess, inflammation of the vena porta, &c. The appendix may become adherent to, and form a communication with, the small intestine, the cæcum, the rectum, the bladder, the internal iliac artery. An adherent appendix cæci may afford an opportunity for a portion of the intestine to become fatally strangulated.

The symptoms may be very latent, especially in phthisis. They are never very clear; they vary, also, with the varieties in the lesions to which the perforation gives rise. Symptoms of local peritonitis in the right iliac fossa occurring in persons previously well, or suffering from phthisis or chronic enteritis, lead one to suspect perforation.

Opium and belladonna in full dose, with tepid baths and a dry diet, are recommended; purgatives and lavements are forbidden. Death is scarcely ever rapid; recovery occurs now and then.

(B) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 73.—Inosite replacing sugar in the urine of a diabetic patient.
By Dr. HOHL.

(*Archiv. f. Phys. Heilkunde*, new series, vol. ii, p. 410, 1858.)

The urine in this case at first presented all the characters belonging to saccharine diabetes. The specific gravity was 1.036, the odour faint and sweetish. The amount of sugar is not specified, but it is stated that it diminished gradually. It is stated also that the urea.

diminished *pari passu* with the sugar, that the quantity of water increased at the same time, and that the state of the patient in every respect became worse and worse. Examining more carefully, Dr. Hohl found that inosite was present in the urine, and that this substance increased as the urea and sugar diminished, until at last, when all trace of sugar had disappeared, and the amount of urea had become reduced to a very low point, as much as from eighteen to twenty grammes of inosite would be passed in the twenty-four hours. Dr. Hohl, unfortunately, was not able to continue his attendance, and the sequel is not known. The paper also contains some speculations as to the possible transformation of diabetic sugar into inosite.

ART. 74.—*On Diplosoma crenata, an entozoon inhabiting the human bladder, and hitherto often confounded with Spiroptera hominis.*
By Dr. ARTHUR FARRE, Professor of Obstetric Medicine in King's College, London.

(*Bond's Archiv. of Medicine*, No. 1v, 1859.)

This case constitutes a remarkable example of an individual in rude health becoming a prey to two distinct entozoa, neither of which have been known to inhabit the human or any other body before or since, and one of them of so unusual a structure that Rudolphi believed it to be nothing more than a lymphatic concretion, or cast of some fistulous passage in the bladder. The generic and specific characters of this worm are thus given by Dr. Farre:

Genus *Diplosoma* (Farre). Corpus molle, fibrosum, teretiusculum, utrinque attenuatum in medio constrictum anguloque acuto inflectum; os, tractus intestinalis, anus, genitalia, nulla.

Diplosoma crenata

D. Margine membranoso crenato,

Hab. In hominis vesica urinaria.

The smaller worms, which were only passed on one occasion, were nematoids—the *Spiroptera hominis* of Rudolphi. The larger worms were mostly from four to six inches in length.

The first part of the case in question was related by Mr. Lawrence, in a volume of the 'Medico-Chirurgical Transactions' so far back as 1811; the sequel is now furnished by Dr. Farre's own observations.

CASE.—Mary P—, æt. 24 (in 1811), of a healthy and strong constitution, was seized, in the winter of 1806, with retention of urine, requiring the daily use of the catheter. From the sensation of weight in the bladder, lumbar pain, and numbness of the thighs which she experienced, added to the circumstance that she could seldom pass water, and then only in drops tinged with blood, it was surmised that she suffered from calculus, but, upon the introduction of a sound, none could be detected.

After passing a considerable time in two hospitals, where the catheter was used twice daily, and where the same opinion of her cure was entertained, she passed, in the summer of 1809, to the care of Mr. Barnett. At this time she exhibited symptoms of considerable constitutional disturbance. She had become emaciated; suffered much pain and burning heat in the bladder, and

whenever the catheter was delayed longer than usual she was seized with violent convulsive fits.

Again the sound being used produced in the patient a sensation as if the instrument had struck against a ball at the top of the bladder. This was followed by a fluttering within her, as if something was moving. The constitutional derangement continued to increase, the local symptoms all became aggravated, and the repetition of the use of the sound was followed on several occasions by exceedingly violent convulsions.

In order to prevent mischief from over-distension of the bladder, the catheter was, on one occasion, left in the urethra. After passing a very restless night, the sensation of motion became very distressing, and, although the urine had escaped as fast as it was secreted, the bladder seemed greatly enlarged. Mr. Barnett was now much surprised on removing the catheter to find, insinuated through its orifice, what appeared to him a roundish worm, about the thickness of a piece of bobbin, an inch and a half in length, and of a white colour. Upon a repetition of this experiment, of which Mr. Lawrence also was now a witness, three worms were brought away, two of them most curiously entangled in the orifice of the instrument, and the third coiled round the end.

With a view to procure the expulsion of the worms, oil of turpentine was now administered by the mouth. The influence of the medicine after repetition became very painful, and the inclination to urinate so urgent, that the patient, yielding to it, passed a pint and a half of water, containing four worms. The only natural evacuation of urine that had taken place since Mr. Barnett's attendance.

This remedy, however, producing, after a short time, unfavorable symptoms, was abandoned, and now a very large catheter open at the end, and furnished with a stilette that filled the orifice while it was introduced, was employed. On withdrawing the stilette a free passage was left for the contents of the bladder. In less than half an hour, nine worms came through, with a tablespoonful of sandy matter, four of these worms being five and a half inches in length. In the course of the next few days fifty-two worms passed in the same manner, in quantities varying from one to nine at a time. On injecting the bladder with turpentine and water more were brought away. The numbers varying from ten to thirteen on each occasion.

Slight motion of an undulating character was observed in some of these, but they were mostly dead; sometimes the worms she had passed through the catheter were observed as low down in the bed as the patient's feet. She continued discharging worms in much the same way until, at length, in October of the same year, the number that had been passed was estimated, by Mr. Barnett, at not less than 800 to 1000.

"The completion of the history of this case," writes Dr. Farre, "I am enabled to furnish from my own observations. The patient remained in the condition last described, with only slight variation, until the year 1836, when through the kindness of Mr. Complin (then the partner of Mr. Barnett), to whose care she had passed, I had the opportunity of repeatedly seeing her. She was then an occupant of the workhouse of St. Sepulchre, bed-ridden and, though yet only forty-nine, having the appearance of premature old age. The catheter with the open end was still constantly employed, and no urine was passed without it. When warm water was occasionally injected through this, a few worms of the larger kind still passed. They were not, however, usually now so large as the earlier specimens, although they presented otherwise the same characters, but in a less marked degree. Seldom more than two or three were now obtained at any one time.

"In addition to her vermiform appendix, I also procured in the same way numerous, round or anguilliform, small and small worm heads, which, on several occasions, passed through her catheter along with the urine. I have satisfied myself by repeated microscopic examination that these possess the unexceptionable characters of the worm.

"Finally, the worm that was taken from the larger worms, seemed to be passed, the smaller ones having been succeeded in my own person, which, as already stated, was previous to my first acquaintance with the patient. And at length, after suffering thirteen years more of the same kind of bad children life, the patient having been required in the last, the patient died, July 14, 1863, of apoplexy and pneumonia.

"Through the assistance of Mr. Campion, I was enabled to make the post mortem examination. This was a matter of great importance, both on account of the opinion expressed by Rudolphi* that the larger worms were not cutaneous at all, but were probably only lymphatic congestions, or even of fistulous sinuses which he imagined to exist in the bladder in this case, and also because it was possible that, although the worms had long passed and passed, still some light might be thrown upon their origin and mode of passage. The examination disappointed any such expectation, as it was found to have furnished only negative results. But it had this advantage, that it refuted the conjecture, hazarded by Rudolphi, regarding the existence of fistulous passages. No such sinuses were anywhere found, nor were any such having previously existed. The most careful examination of the urinary track, including the kidneys, ureters, bladder and urethra, at the time and afterwards, when the parts were examined in detail, revealed nothing but the most perfect and healthy condition of all the parts.

The account of the anatomy of the *Strophomena*, which is embodied in the paper, is quite conclusive as to the nature of the entozoön.

* 'Entozoonum Synopsis,' C. A. Rudolphi, 1800, p. 111.

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

(A) CONCERNING INFLAMMATION.

ART. 75.—*A new method of treating Anthrax.*
By Dr. T. R. BLACKLEY.

(*Dublin Medical Press*, Jan. 18, 1860.)

"ABOUT fourteen or fifteen years ago, taking a stroll not far from my residence in the country," writes Dr. Blackley, "I was requested by a poor woman to visit her husband, who lived in a cottage. He was a worn-out man, about 60 years of age, very thin, and with a countenance full of pain and anxiety. On examination, I found he had an enormous anthrax covering the inferior portion of the scapula, and extending from its anterior edge to the spinous process of the vertebræ. My first impression was that the disease was too far advanced for operation; my second, that it was the only course which held out a hope. I had no instruments, save lancets, in my pocket; but, inquiring if there was a razor in the house, I was presented with one; with this I made a full and free crucial incision through the tumour. The edges of the wound bled freely for a little, but, that having subsided, I ordered a large poultice to be applied, and his strength to be kept up. On the following day I found the surrounding inflammation had diminished to a great extent, but as I looked on the emaciated frame, and a countenance almost Hippocratic, I felt the poor fellow, with every support, could not survive the separation of the slough.

"As I thus reflected, I raised an angle of the skin, stretching the slough which firmly adhered to it, and an idea suggested itself on which I instantly acted. With a forceps and scissors I nipped away the entire slough from the sound parts, going as close as possible to the latter without wounding them, and drawing the edges of the wound into contact with adhesive plaster, I applied a bandage and waited the result. The slough when removed might have filled a wine-glass. I thought it would have been larger, as previous to the operation the tumour in extent was the size of a plate, but as much of its fluid

contents were removed with the poultice, the size of the dead cellular mass was proportionably diminished. In a couple of days I could scarcely credit the improvement which had taken place. The edges of the wound were united through two-thirds of their extent, and in the course of a week, with the assistance of porter, wine, and animal food, a central wound, not larger than a florin, and on the high road to cicatrization, remained. Had the slough been allowed to separate spontaneously, or even with the aid of turpentine and warm dressings, I question much if such a happy result would have taken place, as nature (at best with all the assistance I could have rendered her) would have required as many days to produce that condition of parts which the scissors effected in as many minutes, and at that critical stage of the disease when a day or two of suffering or relief might make all the difference between *cita mors aut victoria lata*."

ART. 76.—*On position as a remedial agent in Surgery.*

By Mr. MITCHELL HENRY, Surgeon to the Middlesex Hospital.

(*Lancet*, Dec. 10, 1859.)

The importance of enforcing an elevated position of the limb in a large proportion of surgical lesions is the theme of the following important remarks:

"Whatever be the ultimate cause of inflammation," says Mr. Henry, "there can be no doubt that there is an accumulation of blood in the neighbourhood of injured and inflamed parts, arising partly from retardation in the circulation, and partly from an increase in the quantity sent to them. Even on the explanation of the mechanical pressure thus exerted on the nervous twigs, much of the pain complained of becomes explicable; but comparatively few persons are aware of the prodigious power which a great degree of elevation of the limb exerts upon the inflammatory process when it occurs in an extremity. If you elevate one hand high above the head, and suffer the other to fall down by the side, in the course of a very few minutes you will find how completely the one has become blanched and cold, whilst the other is hot and dark coloured. So it is with an inflamed limb; but a trifling degree of elevation is of no use: the lower extremity must be placed in the position which we adopt in cases of fracture of the patella; whilst the upper extremity, if the inflammatory symptoms run high, must be tied up, and supported as nearly as possible in the perpendicular position. I have kept limbs in these positions for a week at a time, although in the case of the upper extremity twenty-four or forty-eight hours of the extreme degree of elevation is all that is required. If both arms are placed high above the head, the effect produced in the cerebral circulation becomes very marked; and some persons are in the habit of relieving the severity of a morning headache, which they experience on waking, by the adoption of this simple proceeding. I was much struck by the fact that the sudden death of the Duchess d'Aumale, which occurred whilst she was convalescent from her confinement, took place as she sat up in bed combing her hair. A very few examples of the beneficial effects arising from this plan of eleva-

tion will serve to remind you of what you may any day observe for yourselves in the hospital. Some little time ago a patient was received into Regent ward, with phlegmonous inflammation of the left thigh and leg, following on a slight wound, in an unhealthy constitution. The limb was much swollen, of a universally dark-red hue, inclining here and there to a claret colour, very œdematous, pitted on pressure, and intensely painful. Some years ago I should have adopted the practice which I learned at the hospital where I was educated, and should have made free incisions into it, to be subsequently followed by poultices; but now I had it wrapped in cotton wool, and maintained flexed at an acute angle with the abdomen, whilst a few small doses of the tincture of aconite were administered to the patient, for the general febrile disturbance was very considerable. In the course of six hours the pain, swelling, and redness had greatly abated, so that the patient slept as she had not done for many days previously. Subsequently, two or three small abscesses had to be evacuated from beneath the skin, and the patient got well under the employment of the tincture of iron, good living, and wine, with a speed which experience of both plans of treatment enables me to affirm she would not have done had the bloodletting incisions been resorted to. I might multiply such cases if it were necessary to do so. Take, for another example, the case of the woman now in Bird ward, who was admitted with a neglected scald of the ankle of a fortnight's standing. Observe how the enforced elevation of the limb speedily eased the extreme pain, and changed the character of the deep-red, inflamed, foul, discharging ulcers.

"Similar instances you have seen in the case of the upper extremity; but, for a specimen, let me refer to that girl who was admitted for repeatedly recurring hæmorrhage from a wound of the palmar arch. You know that the wound itself was sloughing, from the pressure which had been applied to it for some days before she came to the hospital, and that forcible flexion of the elbow-joint failed to stop the bleeding. A piece of bougie, rendered thicker by having lint wrapped around it, was strapped along the course of the radial and ulnar vessels at the wrist, and for ten days the girl's hand was tied up, wrapped in cotton wool, to the head of the bed-post. She speedily got accustomed to the inconvenience of the position, and, almost contrary to expectation, the wound healed kindly, without further hæmorrhage.

"I may mention, in order to show that this position of the arms, though unpleasant, is by no means unbearable, that I am acquainted with the case of a young lady who for two years slept with the hands and arms thus raised, as a means of preventing her from practising masturbation, which had reduced her to the lowest state of mental and bodily weakness."

(B) CONCERNING TUMOURS.

ART. 77.—*Palliative treatment of Cancer.* By MR. THOMAS HUNT.

(British Med. Journ., January 21, 1860.)

Mr. Hunt's remarks apply only to those cases of true scirrhus in the breast in which there is a hard and moveable tumour, not yet advanced to the stage of ulceration.

One indication in this condition of things is as far as possible to *prevent* the occurrence of ulceration. The author regards this process as chiefly the result of the *pressure* sustained by the skin and cellular membrane, from *one* hard substance within (the stony tumour), and *another* hard substance without (the patient's corset). This pressure is generally sufficiently severe not only to give rise to pain, but to effect, first, a congestion of the healthy vessels, and secondly, an absorption of the healthy structure, without being sufficient to absorb (as has been proposed by higher pressure) the cancerous tumour itself. A second indication is to support the tumour, without undue pressure; and a third, to relieve the pain.

All these purposes are easily accomplished, in most cases, by the following expedients:—The whole breast should be allowed to rest on a thick broad compress of cotton wadding. When the breast is very pendulous, an old silk handkerchief may be passed, as a sling, between the mamma and the wadding, and tied over the opposite shoulder, one tail of the handkerchief being passed over the clavicle, the other tail over the scapula and spine; and all should be included in a capacious corset, which will then become a comfortable support, instead of acting as a tormenting *vice*. Where the pain has been very severe, the author has applied to the skin a belladonna plaster, spread thinly on soft thin leather. This, by encompassing not only the whole breast, but an inch or two of skin beyond it in all directions, will materially assist in giving comfortable support, and also in allaying the irritability of the nerves. By this *local* treatment the author has often succeeded in relieving the patient of all pain for months together, and also in preserving the isolation of the tumour, and in many cases diminishing its size.

Together with this local treatment, great attention should also be paid to the bodily health and mental tranquillity of the patient. She should be encouraged to hope that her pains may be much relieved, if not entirely removed; that the disease may probably be checked, or even so far subdued as to become for a very considerable period comparatively harmless and benign. The health should be sustained by a generous but regulated diet; by engaging the patient as much as possible in cheerful society; and last, not least, by moderate but frequent exercise in the open air, in a locality where the atmosphere is pure and mild. This will be far, very far, better than confinement in the house, and infinitely better than confinement in the wards of a hospital containing patients with open wounds. If the health is feeble, much good will be derived from the following formula:—

R. Tinct. ferri sesquichloridi, 3iij;
 Liquor arsenici chloridi, 3v;
 Aquæ destillatæ, 3viij.
 M. Capiat minima xl ter in die ex aqua post cibum.

The dose of both the iron and the arsenic must be regulated by their respective effects. The iron is *generally* useful and necessary, the arsenic *always*; for, although the author had rarely found a cancerous tumour entirely dissipated by arsenic, he has as rarely known the mineral fail to check its onward course. It most assuredly exerts, when discreetly administered, a certain amount of specific influence over the disease. He wishes he could say more than this in favour of arsenical treatment; but truth requires that he should stop here. That there is no medicine which is so uniform and potent in its controlling power over this disease is, however, most evident; and in this opinion he is supported by many high authorities in surgery.

As illustrative of the good effects of the proposed treatment, the two following cases are given.

CASE 1.—A female servant, æt. 40, single, consulted me in the autumn of 1858, on account of a tumour in the left mamma, which had been observed to exist upwards of a year, and which was becoming painful, and was beginning seriously to affect her health.

September 16th, 1858.—The tumour was about the size of a nutmeg, irregular, moveable, and of petrous hardness, having little sensibility, and little apparent connexion with the surrounding parts. It occupied a space a little below the nipple, which was not contracted, nor was the skin puckered or discoloured. The absorbent glands were unaffected; but the complexion was sallow and dusky; the appetite nearly gone, the nights were disturbed; and she complained of feeling "very weak and sinking." The alvine and uterine secretions were normal. A soft cushion of cotton wadding was placed under the whole breast, resting on a corset of ample size. She was directed to live well; to take every opportunity of exercise out of doors; and the chloride of arsenic and iron was exhibited thrice a day, in doses of twelve minims and a half of the solution of chloride of arsenic, and seven minims and a half of the tincture of sesquichloride of iron.

November 1st.—The pain was much relieved, and she had better nights; the appetite was improving, and the patient felt and looked better. The tumour was diminished in size. The treatment was continued.

January 25th, 1859.—She had no pain whatever. The tumour was still wasting. The health was improving. The bowels being inactive, a compound rhubarb pill was directed to be taken every night, and the arsenic and iron persisted in.

July 22d.—She had persevered most regularly in the treatment up to this time, and had had no pain whatever for several months. She looked well and plump, and had a good appetite. She considered herself quite well; but I advised her to persevere for at least another month, and to take especial care to use the cotton wadding as before.

This patient had been advised to have the tumour removed; but she strongly objected to the operation, and had resigned herself to despair. When I last saw her, her spirits were so good that I suppose no one could have convinced her that the tumour was malignant.

CASE 2.—Miss —, æt. 24, residing on a healthy eminence in the country, had observed for several months a tumour on the right mamma, below and to

the right of the nipple. She was a fine handsome girl; and nothing but the extreme hardness of the tumour, coupled with failing health, could have convinced me that she was the subject of cancer.

The tumour was of the size of a hantam's egg, of oval figure, but irregular surface, very hard. The mamma was swollen and tender, the axillary glands were not sensibly enlarged, but very tender, and somewhat painful. The pain in the tumour was often intense and lancinating. The nipple was normal, the skin was slightly puckered over the tumour, which, although buried in a highly developed mamma, was in some degree adherent to the integuments. The health was considerably impaired. The bowels were very much constipated, and the catamenia very irregular, sometimes profuse, and sometimes scanty. There was also severe leucorrhœa, with pelvic pains and general uterine distress; as well as a failing appetite and a coated tongue. The pulse was rapid and feeble. The patient had wasted considerably during the last three months, and her spirits were "wretched."

March 12th, 1858.—The breast was enveloped in a belladonna plaster, supported by cotton wadding and a sling. She was directed to regulate the bowels by pills of colocynth, aloes, and rhubarb; and to take the chlorides of iron and arsenic, as in the former case. She was ordered a full diet, with stout or porter; directed to take exercise in the open air, and encouraged to hope for a speedy amendment. In this she was not disappointed, for in less than a fortnight her health had considerably improved.

May 5th.—She was much more free from pain, and better every way in health and spirits. The leucorrhœal discharge was much reduced, the catamenia had become regular and normal. The tumour felt more loose and moveable, and less irregular on its surface; and the puckering of the skin was less obvious. The pain and tenderness in the axilla were quite gone. She complained, however, of headache, and thought the iron did not quite agree with her. The arsenic and aperient pills were continued, without the iron; and the local treatment as before. Fowler's solution, in doses of four minims, was afterwards substituted for the chloride, which began to nauseate a little.

July 19th.—She was better every way, appetite good, was gaining flesh and was in high spirits. The tumour was decidedly reduced in size, and almost free from pain. The treatment was continued.

From this period I saw nothing of the patient for five months; and, as I had never revealed to her the malignant character of the tumour, she expected she was recovering altogether. Accordingly, she visited some friends at a distance, neglected her medicine, and took no heed to the support of the breast.

December 12th.—The tumour was larger and more painful, the catamenia were too frequent, leucorrhœa was constant, and there had been a discharge of blood from the bowels, which were constipated. The appetite was fickle and capricious, and the patient looked haggard and dejected. The arsenic, iron, and purgatives were ordered to be resumed.

I have not seen the patient since the last date, but the relapse of all the bad symptoms, on her neglecting the treatment, is quite as instructive as the benefit previously derived from it.

I am quite aware that it has been suggested by a microscopic pathologist of repute, whose name I forget, that inasmuch as a cancer is a parasitic growth, the application of warm coverings is objectionable, as tending to the more rapid development and growth of the parasite; but a few such facts as the above surely afford a sufficient refutation of this theory. Variations of temperature are great hindrances to healthy action in local disease of every

kind; and besides that the cotton wadding serves as a soft cushion, it probably exercises a salutary influence by regulating the temperature of the parts.

ART. 78.—*On Myeloid Tumours.*

By R. P. HOWARD, Professor of Clinical Medicine in McGill College.

(Pamphlet, 1890.)

The conclusions respecting myeloid tumours at which Dr. Howard arrives after a careful and somewhat extended inquiry are these:—

1. Myeloid tumours may occur with about equal frequency in both sexes.

2. Local injury was the apparent exciting cause of the growths in about one fourth the entire number, and in thirteen of the thirty-eight cases no cause could be assigned.

3. Myeloid tumours occur chiefly before thirty years of age, for 76 per cent. of the cases were under that age, and 90 per cent. were under forty; they may occur at as advanced an age as seventy-four.

4. While myeloid and cancerous tumours are of about equal frequency under twenty, myeloid are more frequent than cancerous in the ratio of forty-seven to twenty at the decade between twenty and thirty.

5. The bones are of all parts of the body most prone to myeloid growths; in about three fourths of the cases it is the long bones which are implicated; and in perhaps all cases, the disease begins in and is confined to the articular extremities of such bones.

6. The condyles of the femur is the part of the body most obnoxious to these tumours, probably the head of the tibia next, and the superior maxilla next. Several other localities exhibit about equal susceptibility, viz., the head of the humerus, the head of the fibula and the inferior maxilla.

7. No bone is probably exempt.

8. Of the soft parts, it is chiefly the fibrous tissues, and especially those in proximity to bones and articulations, that are most liable to myeloid growths; but they have been rarely seen in the lungs, in the neck, in a lymphatic gland, and in the mamma; in the last site, it was probably associated with cancer.

9. These growths very seldom extend into an articulation; this event having been noticed only twice in twenty-five cases, in which the disease occupied the articular extremity of long bones: even should the articulation be entered by the growth, the cartilages are not usually implicated.

10. Secondary inflammation occasionally is excited in the contiguous articulation, but it is of an adhesive rather than a suppurative character.

11. Data are wanting to determine the average duration of life when myeloid tumours are not interfered with.

12. The average duration of life after removal of myeloid tumours far exceeds its average duration after removal of cancerous; a large proportion of the subjects of the growth were alive five years and eight months subsequently to the operation.

13. Of two deaths which followed removal of the tumour at the respective intervals of five and two years, the cause was accidental and not connected with the disease.

14. So far as we know, pure myeloid disease exhibits little proneness to recur after removal, there being only one instance yet recorded of that event;* but, then, in only half the cases collected is the subject of recurrence mentioned, and in many others sufficient time had scarcely elapsed to justify any opinion.

15. While medullary cancer recurs on the average in seven months, and scirrhus cancer in fourteen, myeloid tumour in eighteen instances, had not returned after an average interval of twenty-six months, and in twelve of these, or two thirds, the period of non-recurrence was three years and five months.

16. Myeloid may exceptionally recur as myeloid both locally and in remote organs; the lymphatics enjoying immunity, and there being no cachexia.

17. It may co-exist in an external part, in the lungs and in a lymphatic gland, and even prove fatal without the presence of constitutional cachexia.

18. The same growth may comprise both myeloid cells and so-called "cancer cells," although in general appearance resembling myeloid tumours, and be succeeded by similar compound tumours in the lungs and spine, with marked cachexia.

19. A tumour apparently myeloid, even on microscopic examination, may be followed after removal by genuine open cancer in the vicinity of the original tumour.

20. A tumour composed chiefly of fibro-plastic structure, and partly of myeloid, may be attended with enlargement of the glands, and when removed, be rapidly succeeded by cancer at the site of removal and in the lungs, the glands though enlarged not being cancerous.

21. Of forty-two examples of growths apparently myeloid, two of which, however, probably contained cancer cells, and one fibro-plastic elements, there were five in which the growth either recurred after removal, or had involved remote internal organs.

(c) CONCERNING ULCERS AND WOUNDS.

ART. 79.—*Treatment of Indolent Ulcers by Vapour of Iodine.*

By DR. BRAINARD, Surgeon to the United States Marine Hospital.

(*Chicago Med. Journ.*, Jan., 1860; and *American Medical Monthly*, March, 1860.)

"During the last three years," writes Dr. Brainard, "nearly all the cases of indolent ulcers, entered under our care, to the U. S. Marine Hospital, have been treated by the vapour of iodine. The result is very satisfactory in nearly all cases; more so, by far, than

* Dr. Howard has purposely omitted some cases of myeloid disease of the maxilla which re-appeared after removal, apparently in consequence of having been only partly excised.

that obtained by any other single method. Its advantages are conceived to be these :—

- "1. Cleanliness and facility of application.
- "2. Rapidity of cicatrization.
- "3. Destruction of the odour of the ulcer. Iodine acts as a disinfectant, like chlorine.
- "The manner of using it is as follows :
 - "Dress the ulcer with simple cerate, spread on lint.
 - "2. Take from one to four grains of iodine, according to the size and degree of indolence of the ulcer, folded in several layers of lint, and place it on the ulcer, over the first layer.
 - "3. Cover this with a piece of oiled silk and tin-foil, which should be large enough to extend beyond the edges of the ulcer. This is to prevent rapid vaporization, and it should be secured by a roller. The warmth of the member speedily vaporizes the iodine, and a sensation of warmth is perceived by the patient on the ulcerated surface. If applied in too large quantity, or too directly on the surface, the iodine acts as an escharotic. Care is therefore required in this respect."

ART. 80.—*On a form of Secondary Syphilitic Inoculation.* By Mr. HENRY LEE, Surgeon to King's College Hospital, and Senior Surgeon to the Lock Hospital.

(*Proceedings of Royal Med.-Chir. Soc., Jan. 24, 1860.*)

In a previous communication ('Abstract,' XXIX, p. 30), the author has described two distinct forms of primary syphilitic inoculation : one of these was found to present the characters of the adhesive, the other, of the suppurative inflammation. The former was proved not to be again readily inoculable on the patient himself, while the latter was capable of being reproduced an unlimited number of times, either in the same patient, or in another individual. The first was regarded as a disease which, in its natural course, infected the patient's system ; the second as a local disease requiring only local treatment. It has also been shown that indurated sores, which did not ordinarily yield a discharge capable of being again inoculated upon the patient, might, under conditions of artificial irritation, furnish an inoculable secretion. The inoculations thus produced were, however, quite distinct from those which resulted from the inoculation of the discharge of naturally suppurating sores. The author now states that the effects of one form of secondary syphilitic inoculation are very similar to those produced by the inoculation of the secretion from a primary sore affected with the characteristic and specific adhesive inflammation ; for although not ordinarily inoculable, secondary syphilitic affections might, under conditions of increased activity, give rise, by contact, to a disease which, in its physical characters, very much resembled the primary indurated sore.

A case is given, in which a woman, having suffered from secondary disease, was married, and lived with her husband nine months, without communicating to him any disease. The wife then became pregnant.

The increased activity of the uterus was accompanied by an abrasion or ulceration of the os uteri, and then the husband presented a disease with all the characters of a primary infecting chancre.

In a second case, a grandmother was infected at the age of sixty-six from her own grandchild, who inherited the disease from her son.

In a third case, the marks of a secondary eruption, together with a slight remaining induration from a primary sore, existed at the time of marriage, and in a month afterwards an indurated spot formed on the left labium of the wife. This was followed by secondary symptoms.

In all these cases the disease communicated presented the characters of the specific adhesive inflammation.

The author observes that it has been formally and perseveringly denied that secondary syphilitic disease could be communicated by contact—a theory which had been adopted by a large and influential school, had inflicted much domestic misery, and had been the cause of most painful and unjust accusations. Married ladies, for instance, had not unfrequently found eruptions upon their skins which they were unable to account for. These have been pronounced to be syphilitic by the medical attendants, who, when asked how they could have arisen, had sometimes been bold enough to assert that such diseases could only have resulted from primary chancres, which themselves could only be produced by primary disease. The husbands, misled by such assertions, had been induced to suspect the fidelity of their wives, when they themselves had communicated the disease by means of their own secondary symptoms. The number of cases in which unmarried women had been unjustly accused, and had had a twofold injury inflicted upon them, was very much greater.

The form of secondary syphilitic inoculation, to which the author now directs attention, commences by a chronic form of adhesive inflammation, which terminates in a circumscribed thickening. This might be raised from the surface, in the form of a pimple or tubercle, or it might produce an induration not at all raised above the surrounding parts. The cuticle is generally abraded over the affected surface, but ulceration is no essential part of the disease. The secondary inoculations did frequently ulcerate, but they also often ran their course without any material loss of substance. When the ulceration did occur, it was at the time of the appearance of the constitutional symptoms that it often manifested itself.

A period of incubation, varying from one to six or seven weeks, generally occurred between the contagion and the manifestation of the symptoms. Any idea of destroying the poison by caustic within the first few days was, therefore, quite out of the question. Even if applied immediately that the disease was perceived, it would not check the morbid action. This action might have taken some four or five weeks to develop itself, and could not be counteracted by the destruction of a portion of the tissues which had imbibed the poison. Neither would excision of the indurated part stay the disease; the cut surface would take on the specific morbid action. But the author is led to believe that the cases ultimately did much better

in which the indurations were excised, than those in which they were allowed to remain.

Babington affirmed long ago that induration might precede ulceration in syphilitic sores. This is formally denied by Ricord.

In the form of secondary syphilitic inoculation under consideration, the induration undoubtedly did appear when there was a slight epithelial abrasion only, and might exist for weeks without any action that could be called ulceration. As the induration might exist without the ulceration, so might the ulceration, or abrasion, exist, for a time at least, without the induration. They might follow each other at an uncertain interval upon the same part; or they might in a few rare cases be separated, and each element of the disease might appear at a different spot.

A discharge from the urethra not unfrequently precedes the form of disease now described. This discharge might easily be mistaken for gonorrhœa. It differs, however, in being more viscid and tenacious in its nature; in not being accompanied by the same amount of irritation, or ardor urinæ; in its short duration, and often abrupt termination.

But neither the character of the induration, the period of incubation, nor the accompanying discharge, would with certainty, in the absence of a correct history, distinguish a secondary from a primary natural syphilitic inoculation. A case is recorded, and a drawing given of a case, in which these corresponded accurately with the foregoing description, and yet the inoculation must have been primary, inasmuch as neither party had had any secondary disease.* Several cases are recorded, in which the period of incubation was well marked, and in which the disease consisted at first of an induration only, without ulceration. These cases were accompanied by specific enlargement of the glands in the groin, and in some of them the peculiar discharge from the urethra preceded the specific adhesive inflammation. In the absence of any distinct history, these cases, in the author's opinion, could not with certainty be classed as instances either of primary or of secondary natural syphilitic inoculation.

ART. 81.—*On the prevalence and severity of Syphilis among the Foot Guards in London as compared with the Belgian troops in Brussels.*
By Mr. ACTON.

(*Proc. of the R. Med. and Chir. Soc.*, Feb. 14, 1860.)

After some introductory remarks, thanking the English and Belgian military authorities for the ready assistance given him in the preparation of this paper, the author states that in both armies a weekly examination is made, to discover if disease exist amongst the men. If found affected, the patients are at once sent into the hospital.

In Belgium, the authorities next inquire the name of the woman supposed to have infected the soldier, as well as the house where the disease was contracted, and the particulars (without delay) are forwarded to the inspector of health, who at once examines the girl, to

verify the soldier's statement. If found diseased, she is at once sent to the public hospital, and confined there till cured. These stringent measures are not only ordered, but strictly and effectually carried out. The result had been found so beneficial, that at the time the author visited the hospital, only 11 men out of a garrison of 3500 soldiers were laid up; 6 of these affections were merely slight cases of gonorrhœa. To show that this was not an accidental immunity, a table is given of the whole of the diseases under which the Brussels troops suffered during 1859, and the following remarkable deductions are drawn: First, the extraordinary rarity of venereal disease, 1 out of 10 men only suffering from the affection; and secondly, the singular mildness of the complaint. The almost total exemption from syphilis is a no less remarkable phenomenon. Only 62 cases of chancre occurred during the twelve months in the garrison; in other words, 1 only in 56 men fell ill during that period. Secondary symptoms were almost unknown, as only 10 men came into hospital with this serious complaint.

To show that this immunity is not confined to the military hospitals, Mr. Acton gives a table, showing that in the wards of the civil hospital only 42 cases were under treatment out of a population of 260,000. The author meets the question, "How do you show that this immunity is a consequence of the sanitary regulations to which you ascribe it?—may it not have existed before the regulations?" by giving M. Thiry's reply: "In the wards, where we now have 42 cases, we formerly (*i. e.* before the present system had been set on foot) had from 150 to 160 venereal patients."

The system followed for the sanitary regulation of the women is next described, and it is shown that medical men may respect the feelings of the sex, and yet the women (degraded though they be) appreciate the kind consideration with which the chief-inspector and his assistants perform their painful duties. On the morning when the author was present, eighty women were examined, yet he could not discover the least trace of disease in any of them, and their certificates were signed in about an hour and a half. The necessity and advantage of the system seemed to be mutually felt by all parties. It was the law of the land, and, as such, it was implicitly obeyed as an arrangement of the legislature for the well-being of society.

Attention is next called to the striking contrast to be found amongst the women of London, whose deplorable state is illustrated by the fact that out of 63 women examined lately for admission into a penitentiary, 59 were so seriously diseased that the surgeon could not give his sanction to their being taken into the institution until they had been cured. Another illustration is cited as having occurred at Windsor. During the last summer the first battalion of Fusileer Guards was quartered in this royal garrison, and out of 600 men 64 were laid up in hospital with venereal affections. This state of things arose from the infected condition of the women of the town, as was well known to the men, officers, and police authorities.

The author next contrasts the condition of the public thoroughfares in the two capitals. In Brussels—whatever its vices—the youth may return home from his school unchallenged by loose women; the drunken mechanic is not carried off almost by force to the prosti-

tute's lair; the soldier, reeling home to his barrack, is not waylaid, robbed, and infected. One and all may, and can, if they wish, even in Brussels, seek out the tempter, but the Belgian government conceals the unfortunate sisterhood as much as possible, and vice is not allowed to parade its attractive form before the half-willing victim. Were the same regulation applied to our principal thoroughfares, the author thinks we should gain many great advantages. If nothing else, we should have a much less numerous roll of infected soldiers, for whose vices the country pays without any return whatever. If a case of smallpox occurs, the health officer and policeman unite in putting down the dangerous nuisance; but although a dozen infected prostitutes are well known to frequent a royal town like Windsor, the authorities remain inactive.

The comparison with our Foot Guards is next alluded to.

Instead of syphilis being the slight affection it is in Brussels, this complaint has been for many years, and continues to be, a very plague in the London regiments. During the first four years after enlisting, many a promising young soldier is laid up in hospital with some of these affections. In spite of all the measures hitherto taken, large numbers are being daily sent into hospital, enduring a long course of mercury, which depresses the vital powers, and disposes to other complaints. After a long convalescence, and in spite of all the precautions that can be taken by the medical officers, such men become invalided, and no statistical tables can give any accurate idea of the numbers of good soldiers thus lost to the service.

From tables given, it appears that more than *one half of all the sick* sent to hospital are admitted in consequence of venereal complaints; and the no less remarkable deduction is drawn, *that could we eradicate this disease, we should at once remove half the complaints under which our Foot Guards suffer.* In London every fourth man suffers from syphilis (primary), instead of every fifty-sixth, as in Brussels. Constitutional syphilis in the Guards is so common and severe, that one in eight men who suffer from chancre comes into hospital on account of secondary symptoms.

The remedies.—Mr. Acton does not propose to introduce the foreign system of examining public women in London. He recommends, first of all, that facilities for local ablution should be provided in the different barracks in London; and points to the experience of the East India dépôt barracks, at Warley, as furnishing an illustration of the good to be expected from the adoption of this plan. In the next place, he shows that it is to the interest of all parties concerned to offer an asylum and cure for the women who diseased the soldiers. It is the cheapest remedy, and more in accordance with the common-sense plan of removing one half the diseases under which the army at present labours than any other. Mr. Acton gives a letter from Sir John Liddell, the director-general of the naval medical department, showing that government had already given a partial sanction to the plan, as £1800 had been voted for building wards at Portsmouth for the treatment of prostitutes, and that £500 a year were granted at present for the maintenance of this system, and he asks that what was found so beneficial at Portsmouth should be granted to other garrison

towns; and he concludes by affirming that in future the country would blame the officers of a regiment if such grants were not asked for, to remove a preventable disease, and one which was now proved to cause half the sickness that occurs amongst the household troops.

(D) CONCERNING DISEASES OF BONES AND JOINTS.

ART. 82.—*Scooping of Bone in place of Resection or Amputation.*
By M. SÉDILLOT, of Strasburg.

(*Lancet*, Dec. 10, 1859.)

M. Sédillot, of Strasburg, has, for the last two years, seized every opportunity, in cases of diseased bone, of scooping out the affected parts, and leaving the cortical portions, rather than have recourse to resection or amputation. In April, 1858, he brought this mode of operating before the Academy of Sciences of Paris, and then stated that he was led to adopt the method from observing the remarkable osteogenic powers of the periosteum pointed out by M. Flourens and M. Ollier. Instead, however, of dissecting the periosteum from the bone, and removing the latter (a proceeding which offers some difficulty), M. Sédillot leaves the whole cortical portion of the bone, as above stated, and removes the carious parts.

On the 31st of October last, the author brought before the same Academy an account of the cases operated upon in this manner. Ten patients recovered, and three died. Amongst the former, M. Sédillot mentions the case of a young girl, in whom he had scooped out the lower third of the femur and the condyles: she now walks very well. Another case is that of a young man suffering from caries of the lower part of the left tibia; the scooping here included the whole of the articular extremity, and the inside of the malleolus: the patient now works hard, and can walk fifteen or sixteen miles. The fatal cases may not be charged to the operation: one died of epidemic sloughing phagedæna six weeks after the scooping, and the others several months after submitting to operative procedures. M. Marmy, of Lyons, and M. Ehrmann, a military surgeon in Algeria, have both sent to the author a successful case of this operation.

If we are not much mistaken, M. Sédillot's operation has much analogy to the gouging in caries so often successfully practised in the hospitals of the metropolis. But a real improvement in the operation of resection of joints is, the careful preservation of as much periosteum from the extremity of the articular surfaces some distance up the shafts as has not been destroyed by the progress of disease. This should be borne in mind by those surgeons who frequently perform resection of joints; nor are the practical proofs of the utility of these precautions wanting. M. Verneuil, of Paris, for instance, has placed several cases of resection of the elbow before the Academy of Sciences, and shows that, by dissecting very carefully whatever periosteum is left, he had, by regeneration of bone, in one of his cases, only two inches' shortening, after having removed altogether four inches of osseous texture from the humerus, radius, and ulna. In another

case, M. Verneuil was able to leave a regular cylinder of periosteum at the lower extremity of the shaft of the humerus; and in this instance, also, the results were extremely satisfactory.

(E) CONCERNING FRACTURES AND DISLOCATIONS.

ART. 83.—*Remarks on the fatal results of V-shaped or Cuneiform Fractures.* By M. GOSSELIN.

(*Mém. de la Soc. de Chir. de Paris*, 1858-59; and *Med.-Chir. Rev.*, Jan., 1860.)

In this paper M. Gosselin does not enter into the anatomical details of the V-formed fractures of the tibia. These have been sufficiently adverted to in the 'Bulletin' of the Society (tome vi, pp. 259 and 262), and in the 'Gazette des Hôpitaux' (1855, p. 218); and his object now is to call attention to certain consequences of these fractures which have not attracted the notice they deserve.

The first point to be now noticed is the relationship prevailing between the V-form of the fracture and the more or less multiplied and extensive lesions of the lower fragment. The fissuring or cleaving of this is produced by the elongated point of the upper fragment penetrating between the two branches of the lower V, and acting upon it like a wedge. The term *cuneiform* fracture proposed by M. H. Larrey is therefore a just one, although perhaps that of V-formed better indicates the primary direction which favours, and in some sort prepares for, the wedge-like action of the upper fragment. In regard to their mechanism, there is a resemblance between these fractures and the bicondylar fractures described by Malgaigne and Trélat, in which the two condyles are separated by the penetration of the superior into the inferior fragment. The same resemblance prevails between them and fracture at the base of the great trochanter, described by Hervez de Chégoin and Robert, in which the upper fragment formed by the cervix penetrates into the lower, crushing and splintering the trochanter; as also fractures of the lower end of the radius, made known by M. Vollemier, in which the lower fragment assumes a stellated form through the penetration of the upper one. The peculiarity of the tibia among these various cases is, that the penetration takes place in the diaphysis and not at the end of the bone, so that the lower fragment may present a very long solution of continuity.

Another point calling for attention is the gravity of this description of fracture, at least as far as regards the adult. The six cases which have come under the author's notice all died, although in two of these the fracture was simple; the period of death and the nature of the accidents exhibiting great similarity to what is observed after amputation or gun-shot wounds of the thigh or leg. In examining into the cause of death in these various cases, we must make a distinction between the cases in which death comes on rapidly, say within the first four days, and those in which it takes place at a later period. With respect to the early deaths, there does not seem to be much agreement of opinion. They have by turns been attributed to the intensity of the traumatic fever, nervous accidents, anterior predispo-

sition, and the advent of pernicious fever. The author rejects these explanations as too vague and incomprehensible, and attributes the deaths to "poisoning, a kind of traumatic typhus, or traumatic poisoning, to use an expression already employed by M. Chassaignac."

With respect to the deaths which take place from the tenth to the twentieth day, these have been attributed by great numbers of surgeons, from the remotest times, to an intoxication, pus passing into the circulation being indicated as the agent of its production. M. Gosselin, completely adopting this doctrine of purulent infection, draws from such consecutive intoxication an argument in favour of death, when it takes place at an early period, being also due to poisoning. But it is by no means necessary to adopt the general opinion, that pus as pus is always the poisonous agent; for in many instances patients have died with all the symptoms of purulent infection, without there being any pus in the veins, and without any metastatic abscesses having formed; and at other times there have been purulent infection with metastatic abscess, without pus in the veins. While, therefore, pus may serve as the poison in certain cases of purulent infection, the toxic agent may be different in other cases, and particularly in those in which suppurating phlebitis does not exist.

"What, then, is this intangible poison which, introduced by a wound, may kill a patient in a few minutes, or in a certain number of days after the injury? Glad should I be to be able to name and exhibit it; but that is as impossible as it is to exhibit the poison of farcy, charbon, syphilis, &c. Analogy and reasoning declare that poisoning there is, and it is from analogy and reasoning we are alone able to obtain indications of the nature of the poisonous agent."

Lesions of the bones seem to present an especially favorable condition for the occurrence of this intoxication. It can scarcely be contended that the bones possess a greater power of absorbing any morbid products they may be brought in contact with than the soft parts; and although great lesion of the bone must add to the entire size of the absorbing surface, yet it is difficult to explain why the same effects should not be observed in children when the extent of lesion has been the same. M. Gosselin is disposed to refer the accident to a *changed condition of the medulla* of the bones, a change which the contact of the air may not be always necessary to produce. This, too, would explain the comparative insusceptibility of children, in whose bones the medulla exists in smaller quantity, and with a different composition. In these V-formed fractures, by reason of the prolongation of the solution of continuity the absorbing surface is increased, and by the mechanism of their production, the medullary substance undergoes much greater injury than in ordinary fracture.

(F) CONCERNING INJURIES AND DISEASES OF VESSELS.

ART. 84.—*On the use of Iodide of Potassium in the treatment of Aneurism.* By M. BOUILLAUD.

(*Med.-Chir. Review*, Jan., 1880.)

The 'Gazette des Hôpitaux' has lately reported a clinical lecture of Professor Bouillaud upon aneurisms, and upon the results of the treatment of aneurismal tumours by the iodide of potassium. One of the patients was a man suffering under an aneurism of the brachio-cephalic trunk and aorta, and the other was a woman with an aneurism of the carotid artery. In the latter case, the iodide of potassium was administered for some days in the dose of a gramme, and afterwards in doses of two grammes for two months. At the end of this period, the tumour, which was at first as large as a pigeon's egg, had diminished so much that it might be considered to have disappeared completely. In the case of the man, the tumour, which was of considerable size, underwent displacement contemporaneously with a very well-marked diminution in volume, under the same treatment as that adopted for the woman. At the time of the report, however, the man was still under the treatment by iodide of potassium, and therefore no positive conclusions could be drawn. M. Bouillaud has treated other cases with iodide of potassium. In the case of a man with a large aneurismal tumour at the point of origin of the carotid and subclavian arteries, he found that the swelling was considerably diminished in a few weeks by the use of the iodide. In another patient, treated in the same manner for an aneurism of the carotid artery, he observed at the end of a few weeks that the tumour had almost entirely disappeared. These cases are considered to be sufficiently satisfactory to encourage practitioners in making further trials of the iodide of potassium in aneurismal tumours.

(G) CONCERNING ANÆSTHETICS.

ART. 85.—*On Hypnotic Anæsthesia in Paris.*
By MM. BROCA, AZAÏN, and others.

(*Gaz. Hebdom. de Med. et Chir.*, Dec. 16 and 30, 1859.)

Hypnotism as a means of producing surgical anæsthesia is now on its trial in Paris, and the result promises to be the same as that already arrived at in this country. On the one hand, we have the case of a young woman, a patient in the Necker Hospital at Bordeaux, who was hypnotized so effectually that a very large and painful abscess in the neighbourhood of the anus was opened, without giving rise to any pain. This case was brought before the Parisian Surgical Society by M. Broca, and is well attested. On the other hand, we have sixteen cases, occurring in different hospitals in Paris, and equally attested, in which the attempt to produce anæsthesia by hypnotism proved to be a ~~complete~~ failure. So far, then, there appears to be little chance that it will take the place of chloroform as an appliance in surgery.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 86.—*Novel operation for the cure of Paralytic Deformity of one side of the Face.* By Mr. STARTIN, Surgeon to the Hospital for Diseases of the Skin.

(*Medical Times and Gazette*, March 17, 1860.)

CASE.—A young lady (Miss L. G—, æt. 21) from infancy had suffered from paralysis of the right side of the face, affecting chiefly the muscles supplied by the facial branches of the seventh pair, known as the *pes anserinus*. Thus she had lost the entire power over all the muscles of the mouth and cheek on the right side, sensation remaining unimpaired: little deformity, however, was observable when the face was quite at rest and free from emotion, excepting, perhaps, a slight elevation of the angle of the lips on the opposite or sound side; but the least muscular motion, as an attempt to speak, smile, or manifest any sensation, affecting the nerves of expression, was followed by very considerable distortions of the muscles of the left side concerned in the movements of the mouth, which, having lost their antagonists on the opposite or paralysed side, drew the lips upwards and outwards, far beyond their natural boundaries of motion, so that a most unpleasant deformity of the features on that side resulted, the opposite cheek remaining without expression.

To remedy this disfigurement, I proposed to the parents of the young lady, as an expedient from which much good might, and no harm could, result, a subcutaneous division, by means of the tenotomy-knife, of all the offending muscles; and, having enlisted the sympathies and consent of my patient, the end in view was accomplished as follows, in the presence of Mr. Covey, of Wilton Street, the family medical attendant, and Mr. Potter, who administered the chloroform. The forefinger of the left hand was introduced within the cheek subject to the contractions, the thumb being placed on the outside; the cheek was then drawn down by the thumb and finger, so as to render the muscles to be divided as tense as possible, the knife was then introduced from without, and a cut inwards made upon the finger within the mouth, taking care to avoid the chief branches of the facial artery, which were felt pulsating; in this manner, by two introductions of the knife, the levator labii superioris, the levator anguli oris, and the zygomatici major and minor were divided.

While the effect of the chloroform lasted, the operation seemed to have accomplished all that was desired; but when consciousness returned, it was found that the depressor muscles of the lips were acting unduly, and would require a second operation; consequently, an interval of a fortnight was suffered to elapse, when the depressor anguli oris, and the depressor labii inferioris were divided by similar means to those above detailed; the result as before, while the anæsthesia continued, seemed to be all that could be anticipated; yet on the following day I found, that although marked improvement was secured, yet entire success could only be obtained by one or two more introductions of the knife, so as to intersect some few muscular fibres which had escaped division and still acted abnormally.

As no scar, bleeding, or other inconvenience had followed either operation,

my patient, after the lapse of a few weeks, was desirous this further improvement should be gained, consequently I used the knife a third time, and to enable me to judge of the effects during the operation, no chloroform was administered; but little pain attended the procedure, and I succeeded by a single incision in effecting such further improvement as to render the deformity very trifling, and have recommended that some months shall pass over before anything further is done, which will consist only in an endeavour to remove the line or dimple still existing on the left, but not on the right side of the mouth. In the meantime, I shall look for some similar case to confirm and, perhaps, exceed the success which has attended this first effort in my patient's behalf; and I am hopeful that this account may induce others, more skilled than myself, to repeat the operation, and publish the result in your pages.

ART. 87.—On the use of Morphia as an antiphlogistic in inflammation of the Sclerotic and Iris. By Mr. J. Z. LAWRENCE, Surgeon to the South London Ophthalmic Hospital.

(*Medical Times and Gazette*, Dec. 31, 1859.)

Mr. Lawrence was first induced to try morphia in these cases rather with a view of relieving the excessive pain than with the hope of reaping any further benefit. In order to explain the apparent antiphlogistic effects which attracted his attention, his theory is, that the action of morphia in these cases depends on the known power of the remedy of reducing nervous irritability, which nervous irritability he looks upon as the primary cause of the inflammation.

CASE 1.—Acute scleritis; morphia treatment; decline of the disease in about four and twenty hours.—S. S—, a middle-aged woman, was admitted to the South London Ophthalmic Hospital on November 3d, 1858. The sclerotic was intensely injected, the conjunctiva slightly; the "sclerotic zone" well marked. She suffered such severe shooting pain in the eyeball, eyebrow, and infra-orbital region, as to render her quite sleepless.

November 3d.—R Morph. hydrochlor. gr. $\frac{1}{4}$, every third hour. Warm water fomentations to the eye.

6th.—Took the morphia regularly up to four p.m. yesterday, when she took the last powder. Towards the evening of the 4th the pain in the eye began to abate; now she feels but a slight aching in the eye on exposure to light. The sclerotic vascularity has considerably diminished. She now recovered rapidly under the treatment of a slight conjunctivitis.

CASE 2.—Acute scleritis; morphia treatment; decline of the disease in less than twelve hours.—H. B—, an elderly but strong man, admitted to the St. Marylebone Dispensary, July 27th, 1859. Scleritis of a week's duration characterised by intense vascularity of the sclerotic, and a "sharp, burning" pain in the eyeball and forehead, with nocturnal exacerbation, rendering the patient sleepless. Suffering simultaneously from gout in the great toe. Has done nothing but foment the eye.

R Morph. hydrochlor. gr. $\frac{1}{4}$, 3tia quaque hora. Warm water fomentations to the eye.

July 29th.—Has taken the medicine as prescribed. Slept well, but not heavily, on the night of the 27th after midnight, when the hitherto severe pain in the eye left him. To-day, the vascularity of the tunics greatly diminished; the pain in the eyeball, brow, and forehead gone, leaving but a

trifling pain at the side of the nose. Bowels have not acted since the 27th. To leave off the morphia and take an ounce of castor-oil.

August 1st.—Perfectly recovered.

CASE 3.—*Double acute iritis; failure of leeching and mercurialisation; morphia treatment; decline of disease within four and twenty hours.*—E. P.—, was admitted to the South London Ophthalmic Hospital on August 27th, 1859, during my absence from town, and up to September 10th, when I first saw her, had been treated by leeching, blistering, mercurialisation, and belladonna lotion for the previous three weeks.

September 10th.—Iris discoloured; sclerotic deeply injected; pupils dilated (from the belladonna lotion); humours muddy; complains of pain in the eye-balls and eyebrows, "like a rheumatic pain, of an overwhelming weight, of the light causing her great agony;" eyesight very dim.

R. Morph. hydrochlor. gr. $\frac{1}{4}$, 4ta quaque hora. Warm water fomentations to the eyes.

14th.—Took the first dose of medicine on the night of the 10th. The pain abated, and she expressly stated "very suddenly." She slept that night. On the following morning she could face the light much better. The medicine has made her feel very sick and drowsy. To-day she complains only of a little "pricking and shooting pain." Her eyes are still dim and weak, but the sclerotic injection is nearly gone.

28th.—Since the last report has been taking the morphia in diminished doses, and subsequently a grain of quinine three times a day. Her eyes are to all appearances perfectly sound; nothing remains of her disease but a slight haziness of vision.

CASE 4.—*Acute scleritis; morphia treatment; decline of the disease in about seven hours.*—B. L.—, æt. 40, a working engineer, was admitted to the South London Ophthalmic Hospital on September 24th, 1859. Five or six years ago he was struck on the now-inflamed eye by something from a forge-fire. He recovered from the accident in about a month. The eye has been inflamed, as it is now, for the last three weeks. It presents all the usual signs of acute scleritis; great sclerotic vascularity (the "sclerotic zone" well marked), excessive lachrymation, great pain (especially at night, rendering him sleepless) referred to the eyeball, eyebrow, and temple, and compared by the patient to the sensation of "a weight hanging from his forehead, and pulling him down;" eyesight "foggy;" over inner part of the cornea a rust-coloured opaque speck, with a minute depression in its centre, evidenced the accident of five years back, but the most careful examination failed to detect any foreign body in the anterior chamber.

September 24th.—R. Morph. hydrochlor., gr. $\frac{1}{4}$, every third hour, watching its effects; warm water fomentations to the eye. Took the first dose about four p.m., felt sleepy about six p.m.; second dose about seven p.m.; the pain began then gradually to "die away;" the third dose about eleven p.m.—slept for three or four hours. The following day (Sunday) at noon but trifling pain was felt, and he slept soundly that night.

28th.—The case was reduced to one of slight conjunctivitis; all pain has left him; found his bowels confined from the medicine. To leave off the morphia, and take a purgative dose of calomel and colocynth, which completed the cure.

CASE 5.—*Traumatic acute scleritis; morphia treatment; decline of the disease in less than four and twenty hours.*—C. H.—, æt. 46, was on a Thursday evening engaged in Messrs. M——'s factory, pouring some molten iron into a sand-mould, when a quantity of hot sand flew into his eye. He came to the South London Ophthalmic Hospital on Saturday, Oct. 1st, 1859. With the

exception of two minute particles of sand, which I removed with a spill of blotting-paper, all the sand had been removed by one of his fellow-workmen. I found him suffering from intense scleritis, marked by universal and high vascularity of the sclerotic and conjunctiva, great lachrymation and excessive pain in the eyeball, compared by the patient to the "prodding of a knife," and rendering him quite sleepless.

October 1st.—R Morph. hydrochlor., gr. $\frac{1}{2}$, every third hour. Warm water fomentations.

Took the first dose of morphia about three p.m., and then regularly every three hours. It made him feel very drowsy, and that (Saturday) night he slept soundly. The violent pain was entirely gone on the following morning.

3d.—The case reduced to one of a simple conjunctivitis, and treated by a purgative dose of calomel, which completed the cure.

CASE 6.—*Acute scleritis; failure of the morphia treatment; recovery under depletion and mercurialisation.*—E. S.—, æt. 48, applied at the South London Ophthalmic Hospital on January 12th, 1859. About twelve months before she lost the sight of the now-inflamed eye by a cork from a soda-water bottle. The consequent inflammation of the eye lasted for only a few days; but three or four months afterwards her eyesight began gradually to fade, and she can now only distinguish the outlines (but not the colours) of objects with the injured eye. About three weeks before applying to the hospital she caught cold in the eye, which now presents the following signs—Intense sclerotic and conjunctival vascularity ("sclerotic zone" well marked); pupil central of medium size, angular, destitute of contractility. Pain intense, referred to the right eyeball and right side of the head, proceeding from the vertex downwards to the level of the ala nasi.

January 12th.—R Morph. hydrochl., gr. $\frac{1}{2}$, every fourth hour. Warm water fomentations to the eye.

15th.—Pain and other symptoms unabated. She recovered slowly under leeching, blistering, and mercurialisation.

Whether in this case the deeply diseased state of the eye, or the (too) small doses of the morphia, influenced the failure of the drug, must remain a matter of conjecture.

ART. 88.—*On division of the Ciliary Muscle in Glaucoma, &c.* By Mr. HANCOCK, Surgeon to the Royal Westminster Ophthalmic Hospital, &c.

(*Lancet*, Feb. 11, 1860.)

"I differ," says Mr. Hancock, in a clinical lecture, "from those who regard acute glaucoma merely as a choroiditis, or an irido-choroiditis, with infusion into the vitreous and aqueous humours, as they seem to me to regard results as causes. I believe that glaucoma, whether acute or chronic, is essentially a disease of the blood and blood-vessels, and that the effusion or infusion, as may be described, is the result of this condition, which, if not arrested, sooner or later, destroys sight. I do not, therefore, believe that any operation will of itself cure glaucoma, but that, by removing the impediment to the circulation through the blood-vessels of the choroid and retina, the disease may be arrested until, if not too far advanced, it may frequently be cured by the aid of constitutional remedies.

"I have observed, what I have not found noticed by any previous writer, that in acute glaucoma the eyeball is constricted and marked by a circular depression at the point corresponding to the ciliary muscle, whilst the vessels around this part are gorged to a great degree. The eyeball is elongated in its antero-posterior diameter, and the cornea lessened in all its diameters, and rendered more conical than natural; whilst, when the patient turns his eyeball sideways, irregular bulging of the sclerotica (staphyloma) is exposed to view. In one or two cases, also, in which I performed iridectomy, the pupil was dilated to excess, and the iris so tense and rigid that it resembled a piece of cat-gut, and could with difficulty be drawn through the wound. It is not at all clear how regular, equable pressure from fluid within the eyeball can, *per se*, produce cupping of the optic papilla, pulsation of the retinal artery, aneurismal swellings of the retinal veins, a varicose condition of the choroid veins, &c., &c.

"Equable pressure from confined and compressed fluid exerted in all directions from within outwards would, if uninfluenced by extraneous circumstances, tend rather to stretch the retina and choroid, and thus prevent the cupping of the optic papilla and bulging of the choroid. We can, however, readily understand that, the lateral expansion of the eyeball being, in a great degree, prevented by the constriction of the ciliary muscle, the force of the compressed fluid acts more powerfully in the antero-posterior direction; hence the puckering and cupping of the retina, the irregular bulging of the choroid, the alteration in the shape of the cornea, and elongation of the eyeball.

"Having carefully marked these several changes, and studied them in conjunction with the appearances observed by the ophthalmoscope in the interior of the eyeball, and with those seen on dissection, I compared them with the normal anatomy of the eye. I directed my attention to the connexion between the inner elastic layer of the cornea with the ciliary muscle, and considered how the vessels from the choroid pass through this muscle to reach the iris, the peculiar arrangement of the vessels of that latter organ, and of the choroid (especially of the choroidal veins) with regard to the ciliary muscle. I regarded also the relation between that muscle and the ora serrata of the retina, as well as the distribution of the retinal vessels close to their junction.

"All these considerations led me to suspect that the ophthalmoscopic and pathological appearances of the blood-vessels were greatly enhanced by, if not, in some instances, entirely due to, the obstruction of the circulation caused by the undue and excessive constriction exerted upon them by the spasmodic or extreme contraction of the ciliary muscle, analogous to the spasm so often observed in the muscular fibres of the urethra, as well as in the sphincter ani muscle in certain affections of those parts.

"This supposition was strengthened by the character of pain so often described to me by patients as ushering in the attack of acute glaucoma: for instance, a lady, to whom I was called by Mr. Jackson, informed me that having been exposed to a very strong light at a

party given by one of the foreign ambassadors, she felt, upon her return home, as though she had received a violent blow upon her eye, followed by excruciating spasmodic pain, which lasted for several hours.

"From these facts, I was led to hope that by cutting the muscle across, as we divide the sphincter ani under analogous circumstances, I should not only get rid of the effused fluid and relieve the constriction of the different parts connected with the ciliary muscle, but at the same time, by removing the impediment to the circulation of the blood, favour the return of the vessels to their normal condition, and so prevent a recurrence of the effusion into the eye; and I was the more inclined to make the trial inasmuch as, whilst failing, after the most careful study of what had been written of Gräfe's operation, for and against, to discover the principles which regulated its performance, I found that, even where most successful, it causes certain results which it is most desirable should be obviated. For instance—

"1. The disfigurement resulting from the removal of a portion of the iris, and the formation of a coloboma iridis.

"2. The removal of one fourth or one fifth of the iris.

"Whatever difference of opinion obtains with regard to other points connected with iridectomy, there does not appear to be any on this. All agree that the smaller the quantity of iris removed, the better. 'By the excision of a portion of the iris, the edge of the lens, with its suspensory ligament passing in front of the vitreous humour to the ciliary process is exposed to view; therefore, to remedy this inconvenience, Mr. Bowman makes an incision above, because he believes that the cover thus given by the upper lid to the margin of the lens, which has been exposed by the removal of the iris, contributes to the perfection of vision.'

"3. The loss of the power of adapting the eye to near objects, which it in some degree retains in chronic glaucoma.

"'The exercise of this power depending upon the increased curvature of the lens in the pupillary area from the pressure of the iris on its margin,—an action which becomes almost, if not quite, impossible when part of the iris is excised.'

"By the operation which I am about to propose to you, these inconveniences are avoided. It is very simple, and may be performed easily and quickly.

"I introduce a Beer's cataract-knife at the outer and lower margin of the cornea where it joins the sclerotica. The point of the knife is pushed obliquely backwards and downwards until the fibres of the sclerotica are divided obliquely for rather more than one eighth of an inch; by this incision the ciliary muscle is divided, whilst the accumulated fluid flows by the side of the knife. This procedure is rarely followed by bad symptoms. In one case there was inflammation, but it was reduced without difficulty. The operation appears to me to present the following advantages:

"1. It obviates the objections to iridectomy.

"2. It relieves pain by the removal of the constriction of the eyeball, and the consequent pressure upon the nerves from the undue contraction of the ciliary muscle.

"3. By it, the accumulated fluid is evacuated, and, the impediment to the circulation through the blood-vessels being got rid of, they are placed in a favorable condition to recover their normal state; and the probability of a recurrence of the effusion is greatly diminished.

"4. By the situation and oblique direction of the incision, a free drainage of the fluid is provided for.

"5. The iris is but slightly wounded, and the pupil is preserved of its original size and shape, and in its normal situation.

"6. The danger of wounding the lens is avoided."

ART. 89.—*Extraction of Cataract by the linear incision.*

By MR. B. BELL and DR. P. H. WATSON.

(*Edinburgh Medical Journal*, Sept., 1858.)

During the last six months, two soft cataracts have been removed at the Edinburgh Eye Infirmary by what has been called the operation of linear incision. The word linear is used in contradistinction to the flap, which is made by incision in the ordinary operation of extraction where it involves one half of the cornea. The proceeding of which we are about to speak might be more properly named extraction through a small section.

The chief advantages of the operation seem to be these two: 1. It affords an easy and expeditious mode of getting rid of soft cataracts, to which alone it is applicable; for it is well known that when these are treated in the ordinary way, by being broken up with a view to solution, they are often dissolved very slowly and not without ultimate injury to the visual powers of the eye. Ophthalmic surgeons are familiar with the observation, that the process of solution is not unfrequently followed by a marked impairment of vision, as if the deeper and more important textures had, somehow or other, been interfered with in their nutrition, by the prolonged and exhausting effort to dissolve and remove the opaque lens. But, by removing the cataract at once, as in the operation by *linear incision*, the organ is spared this effort at solution, and the likelihood of vision being restored is greatly increased. And even if a portion merely of the cataract escapes through the opening in the cornea, the remainder dissolves and disappears more rapidly and with less injury to the eye than if the whole lens had been allowed to remain in the chambers of the aqueous humour, after being broken up by the needle. 2. The smallness of the incision of the cornea—which, however, the cataracts being soft, is amply sufficient—renders the operation both less dangerous and more easily performed than the ordinary method of extraction for cataracts of hard and firm textures. Such cataracts always require an ample section of the cornea; and, under ordinary circumstances, and in suitable cases, no other operative procedure, notwithstanding the difficulty of its performance, can bear a comparison with it.

The operation by linear incision may be performed in the following manner. But, first of all, is chloroform to be administered? There seems to be less objection to its use in this operation than in ordinary extraction with a large division of the cornea; because, in the event

of sickness and vomiting being induced, the risk of injury to the eye is obviously smaller. Moreover, unless the self-possession and steadiness of the patient can be relied on, there will be considerable advantage from inducing anæsthesia, if the scoop should require to be frequently employed in removing broken portions of the lens from the anterior chamber. Preliminaries being over, the incision of the cornea is made by means of a triangular-shaped knife, sharp at the point, keen on both edges, and about two and a half or three lines broad at its base. It should enter the cornea near its outer margin, and pass horizontally in front of the iris, until the whole length of the cutting edges has penetrated the anterior chamber. The knife is then withdrawn, care being taken that as little as possible of the aqueous humour be allowed to escape. The next stage of the operation consists in passing a fine cutting needle into the opening, freely dividing the capsule, breaking up the substance of the lens, and bringing the fragments into the anterior chamber. Most of the latter will, in all probability, be carried out by the aqueous humour, as it gushes through the wound of the cornea; but, if this should not be the case, we withdraw the needle, and with a small silver scoop, made for the purpose, endeavour carefully and gently to effect the same object. But, as we have already hinted, there is no serious objection to our allowing small fragments of the cataract, which is supposed to be of soft texture, to remain in the anterior chamber; for the wound in the cornea speedily heals, the aqueous humour is resecreted, and the remaining portions will rapidly disappear. It is better far to trust to this course of events, than to give way to the *nimia diligentia chirurgorum*, which, by bruising the edges of the wound, might prevent it from healing, and perhaps occasion serious inflammation of the iris with all its consequences.

Some prefer breaking up the cataract, in the first place, with a very fine cutting needle, so accurately made as not to let out the aqueous humour, and then making the incision of the cornea in the manner already described. The objections to this are of a practical nature: the extreme difficulty of withdrawing the needle without allowing a little of the aqueous humour to escape, and then the ulterior difficulty, of cutting in a satisfactory manner with the triangular knife the imperfectly distended cornea. To obviate this latter difficulty, the second part of the operation might be postponed until the following day, when the aqueous humour would be resecreted; but then there might be some risk of inflammatory action being kindled by the portions of lens which had been brought into the anterior chamber. No general rule need be laid down. The principle of the operation being kept in view, the details may be modified in individual cases, according to the judgment of the surgeon.

ART. 90.—*Recovery of sight after extensive Laceration of Cornea.*
 By Mr. DIXON, Surgeon to the Royal London Ophthalmic Hospital.

(*Medical Times and Gazette*, Nov. 12, 1889.)

We quote this case as an excellent instance of the reparative powers of nature, and of the advantages of non-interference with the action of these powers by "antiphlogistic measures." The closure of the lids by strips of plaster is the chief feature of the treatment adopted.

CASE.—Robert W., æt. 20, was admitted on August 11th, on account of a wound of the right eye. He stated that at three o'clock on the previous day, while engaged in lowering a railway-carriage, a heavy piece of iron had been struck with great violence against his eye. Immediately after the blow he tried the eye, and found that although he could distinguish light he could not see any object. He remained at work with the eye covered with a piece of rag, during the remainder of the afternoon. During the night he had a good deal of pain.

On admission a rather jagged wound was seen to extend horizontally across the middle of the cornea, through its entire width. The aqueous humour had escaped, and the iris was bulged forward in contact with the cornea and the wound. The pupil was occupied by white opaque lymph, and it was supposed that the lens had been injured. There was considerable congestion of the eye. The treatment adopted consisted in carefully closing the lids by strips of adhesive plaster. Ten minims of the liquor opii sedativus were ordered three times daily, and he was directed to abstain from all stimulants, but to take an ordinary meat diet. It should be stated that he was a florid, healthy-looking man, of steady habits. At his next visit, three days later, the condition of things was satisfactory, in that there was no further tendency of the iris to bulge into the wound, nor any excess of inflammatory action. The cornea was still quite flaccid.

On the third visit, a week after the accident, the opium was suspended, the pain having quite subsided; at this time the cornea was still flaccid, but the wound in it appeared to be healing.

We need not enter into any detailed account of the events during the next month. No medicine was given; nor, excepting the precaution of keeping the eye perfectly closed, were any topical remedies employed. At the end of three weeks the wound was soundly healed, and the lymph in the pupil was, to a large extent, absorbed. The cornea was now regaining its convexity, and the strapping was laid aside.

On October 5th, the following note was made: "A horizontal cicatrix extends along the middle line of the cornea, the iris is adherent to the cicatrix at parts, but not so at the upper and lower edges of the pupil, which are mobile. He can see large objects. No lymph remains in the pupil, and the lens, if present, is not opaque."

On November 3d (three months after the accident) the eye had recovered to a most surprising degree, and the man could read minion type with ease. The cicatrix across the cornea extended from side to side, exactly in the horizontal plane, thus crossing the middle of the pupil. It occasioned, however, merely a line of opacity, the corneal structure closely adjacent to it being perfectly transparent. The iris was in contact with the cicatrix, and united to it from its circumference to the margin of the pupil on either side. Thus the pupillary edge was left free in two semicircles, one above and one below the cicatrix. Both of these moved easily under the stimulus of light.

ART. 91.—*Case of Calculus in the nostril.*

By Dr. WILLIAM N. BROWNE.

(Edin. Med. Journ., Dec., 1859.)

The calculus in this case was found to consist of phosphate and carbonate of lime, with traces of magnesia, arranged in concentric layers around a small dark nucleus, consisting of fatty matter and iron, and which did not bear any resemblance to any distinct foreign body which could have been introduced from without into the nostril.

CASE.—John C—, æt. 66, a hedger, and living in the village of Long-Newton, came, on the morning of the 20th of July, to consult me about a swelling of his nose, which was becoming very painful, and completely obstructing his breathing through the nostril. Upon looking at the nose I found it very much swelled on the right side, and the ala pushed out as by some large body filling up the nostril. On further examination I found the left nostril quite closed up, and covered over by a membrane or skin, and that the right one was all but closed with a similar membrane, except at the centre, where there was a small hole, that admitted with some little difficulty the end of an ordinary probe, and from which there discharged a little glairy mucous fluid, but not purulent.

When a child he had suffered from a very severe attack of confluent smallpox, and after his recovery his nostrils were found to be quite grown together.

A great number of years ago an attempt was made by a surgeon in Kelso to open them; but the operation had not been very successful, as the left nostril had closed up entirely. The right one was closed up all but the small orifice mentioned. On passing a probe through this opening into the nostril, it came upon a substance which felt hard, rough, and slightly moveable, and which entirely blocked up the nostril, and prevented the probe going further back.

I asked him how long it was since he had observed this body in his nose; and he said he thought it had begun to form eight or nine years ago. That was the time he first noticed it, and then he thought it about the size of a pea, and that on putting in a large pin he could easily move it up and down; but that for some time (how long he could not say) he could not do this. I felt a little puzzled as to the nature of this foreign body, but had no difficulty in seeing that the sooner it was got out the better, and advised him to have it at once removed. To this he at once consented, and on the following day I drove to his house and proceeded to its extraction. I incised freely the membrane that partially closed up the right nostril, and then with a small pair of polypus forceps laid hold of the foreign body, and after a little difficulty extracted the calculus. It measured fully an inch and three eighths in its greatest length, by an inch in breadth, and nearly half an inch in thickness at one point. It weighed two drachms thirty-three grains.

There was no bleeding at the time of the operation; and two days afterwards, when I saw the patient, he was well and going to begin his usual work, and very grateful for having got rid of his burden.

ART. 92.—*Novel mode of removing a foreign body from the nose.*
 By Dr. W. S. KING, Surgeon U. S. Army.

(*American Journal of Medical Science*, April, 1860.)

This case, as related to Dr. King, is as follows:—Some time during the past summer, a cherry-stone became lodged in the nares of a small child. All attempts at removal having failed on the part of the parents, the child was brought to Albuquerque, and placed in the charge of a physician. The efforts made to dislodge the stone by this gentleman not meeting with success, the patient was taken to the village barber, who, in addition to his tonsorial functions, practised the healing art. The barber promised immediate success. He administered a powerful emetic, and watching its operation, at the moment when vomiting was about to commence, clapped a handkerchief tightly over the mouth of the child. Either from the violent expulsion of the contents of the stomach against the posterior nares, exit being denied by the mouth, or from the impulse given by the expired air through the same channel, the cherry-stone dropped on the floor.

ART. 93.—*Case of a pin in the middle ear.*
 By Mr. J. R. KEALY, of Gosport.

(*Medical Times and Gazette*, Dec. 17, 1859.)

CASE.—About six o'clock on a Monday evening in last month, I was requested to attend immediately at the house of Mr. —, one of whose daughters, æt. 19, had, while at the toilette table, put a pin into her left ear to relieve an intolerable itching. Her fingers being wet, the pin escaped her hold, and in order to get it out she pushed her little finger into the ear, and so made bad worse.

I found the parts about the meatus excessively tender; and she being of an hysterical temperament, the examination of the ear was extremely difficult. Having failed to discover the pin, and wishing to get rid of the cerumen, I used an ear-syringe. Without my asking her the question, she informed me that the liquid was passing into her throat; thus showing the membrana tympani to be perforated. There was sharp, pricking pain between the mastoid process and ramus of the jaw. I prescribed for her generally and topically, and at a subsequent visit determined to wait the result by the morning. About eight o'clock on Tuesday morning I visited my patient; found she had had a restless night, with increased pain and a stronger sensation of pricking on the left side of the throat. Hoping the pin was finding the point of exit, I directed her how to manage in order to secure it, should she have the opportunity. I left for breakfast, but in a few minutes was quickly summoned to attend. On entering the room, the astonished friends produced the pin. It seems that, acting upon my instructions, she got her nail round the head of the pin; this excited reflex action, so that in an effort at retching, out came the pin, to the sufferer's marvellous delight. The throat was somewhat inflamed, and a small quantity of blood was discernible. A gargle was ordered, and a continuance of the treatment. Next day symptoms of inflammatory action in the middle ear had increased, so that I was obliged

to order leeches to be applied; these had the desired effect. Subsequently a blister was applied behind the ear, in order to relieve the continued pain.

September 12th.—Upon examination by means of the otoscope, I find the membrana tympani opaque, and posteriorly a depression, in which is a hole about the size of a pin. She hears my watch at a distance of about two inches.

The mother of my patient is deaf from the loss of the membranæ tympanorum; and not long since I attended another daughter, who became completely deaf from suppurative inflammation of the external meatus, but has now perfectly recovered her hearing.

ART. 94.—*On Bloody Tumours of the Pavilion of the Ear in the Insane.* By M. ACHILLE FOVILLE.

(*Gaz. Hebdom.*, Nos. 29 and 30, pp. 450 and 469, 1859.)

The pathology of this affection, which occurs exclusively in the insane, and especially in those affected with paralysis, is surrounded with obscurity, notwithstanding the researches of MM. Foville, Ferrus, Motet, and others, who have recently published accounts of their researches in the above journal. The paper of M. Foville, which is very elaborate, is summed up as follows:

1. Bloody tumours of the pavilion of the ear, observed in the insane, are formed by the effusion of blood beneath the perichondrium, which is detached from the cartilage.
2. The detached perichondrium retracts upon itself in proportion as the effused blood is absorbed, and drawing with it other portions of the pavilion, thus accounts for the deformity consequent upon this class of tumours.
3. The perichondrium deposits, on its internal surface, a cartilage of new formation, which produces at one time a layer, united to its whole extent, at other times independent deposits more or less separated from each other. These new products are the cause of the thickening of the ears, which have been the seat of these effusions.
4. The formation of sanguineous tumours of the ear is very frequently preceded and accompanied by general disturbance of the cephalic circulation; and it is worthy of remark that the increase of discoloration, heat, and pain, which is observed in these affections, resembles in a striking manner those symptoms seen in animals in which the sympathetic nerve has been divided in the neck, or from which the superior cervical ganglion has been removed. Although it is impossible to draw any definite conclusions from this coincidence, yet new researches in this direction may throw some light upon the etiology of congestions and hæmorrhages of different parts of the head.

ART. 95.—*A rare form of Fracture of the Lower Jaw treated by a novel method.* By Dr. E. J. FOUNTAIN.

(*New York Journal of Medicine*, Jan., 1860.)

In the spring of 1856, W. G—, æt. 42, fell from a height about ten feet, striking his chin upon a hard piece of timber. The result was a fracture of the lower jaw through the body on either side, and also through the neck of the condyle on the left.

The deformity was characteristic of fracture of the neck—namely, a displacement of the whole of the lower jaw backwards and laterally to the side of the fracture. The middle portion was disconnected by simple fractures without displacement, around which the membranous and muscular tissues held sufficiently firm to admit of sufficient traction upon the part posterior to the middle fragment by force applied to the latter in the region of the symphysis. By careful manipulation, crepitus could be felt at each point. Upon releasing the traction in front, the deformity immediately returned, by which it became evident that the fracture through the neck was oblique, permitting the retractive force of the muscles to reproduce the deformity as soon as the force which held it in front was removed. It became evident at once that to retain this fractured portion permanently in apposition so as to prevent deformity, would be the greatest difficulty. A temporary application of the pasteboard splint and four-tailed bandage was applied, and ordinary measures used to guard against excessive inflammation. During the following eight days, I tried every form of dressing by splints and bandaging that my ingenuity could devise to effect a *permanent* reduction of the fracture of the neck, and in this I was assisted by two skilful surgeons, Drs. O'Reardon and Adler, but all to no purpose. The middle fracture gave me no trouble, but in arranging the fractured neck, I could derive no aid from my friends, and found no light to guide me by consulting our text-books on surgery. There was no difficulty in properly reducing the fracture, but after labouring for hours with all manner of appliances to retain it in place, I would invariably find the chin slipping back, and to one side, until in a very short time the original deformity would be entirely restored and our united efforts completely baffled. On the eighth day after the injury we all laboured for several hours to secure a correct and permanent position of the parts, and had finally to abandon all our efforts as ineffectual. The case was now a truly distressing one. The family became impressed with the belief that it could never be accomplished, and the prospect of a serious and unsightly deformity for life created an anxiety and grief which can hardly be described.

A method then occurred to me which I at once announced as a *sure* way and the *only* way by which deformity might be prevented, and the parts made to unite permanently in their true position. The jaw was displaced backwards and laterally towards the injured side. By firm and steady traction it could be brought out in place, and now the question was *how* to retain it there. It became evident to me that some unvarying, persistent force must be applied to a fixed point in such a manner as to take the place of my hand or the instrument used in bringing it out and holding it there. The anterior portion of the superior maxillary, or its prolongation by the teeth, presented this fixed point, and by *drilling holes* in one or more of the upper and lower teeth in front, and firmly *wiring* them together in their natural position, the lower jaw must of necessity be prevented from falling backwards or to one side. Wrapping wire around the teeth could not be depended upon. The holes drilled for this purpose I thought could be easily filled by a dentist and thus preserved; and

even though much injured or destroyed, how trifling this loss compared with a lasting deformity of the whole jaw—unsightly in appearance, and serious in its effects upon the voice and mastication. I at once obtained the services of a dentist to drill the teeth, which was found to be no very light operation, owing perhaps to a want of proper instruments. In order to make sure of a perfect reduction of lateral as well as backward displacement, I had the holes made in such a manner that the traction of the connecting wire would not only hold the two bones firmly together, but also draw the jaw to the side *opposite* the fractured neck, in order that the loop of wire might not, like a link, swing slightly to one side by the muscular contraction. I therefore had a hole drilled directly through a front incisor above, and another through one below, not directly opposite in their natural position, but through the one adjoining it on the side towards which the bone was inclined to be drawn. Through these I passed a double strand of fine annealed iron wire, such as is used by jewellers, and drawing the lower jaw forward in its place and holding it firmly against the upper, by aid of assistants, I twisted the wires tightly together. The success was complete. There I now had it exactly in place, and as long as the wires should hold there was no possibility of the slightest displacement.

After this was accomplished the other fractures were easily managed. A pasteboard splint was moulded about the whole of the lower jaw, and retained by the usual four-tailed bandage. The patient had no difficulty in taking liquids, which were easily drawn into the mouth between the teeth, and by this means he was nourished for the *four weeks* during which he patiently endured this artificial *lock-jaw*. In about ten days the wires gave way, and I immediately inserted another cord composed of four of the same wires, and this held the jaw securely and immovably fixed until the fractures were all united.

I removed the wires after the jaw had been thus secured for four weeks, and found that perfect union had taken place at all the points of fracture, *without a particle of deformity*, except such as necessarily resulted from the provisional callus. This was in time gradually absorbed and now, nearly four years since the accident, no one can tell by his appearance, or by an examination, that any fracture had ever taken place.

(B) CONCERNING THE CHEST, ABDOMEN, AND PELVIS.

ART. 96.—*On the detachment of the Mucous Membrane in Laryngotomy.* By M. PITHEA.

(*Zeitschrift der Gesellschaft der Aerzte zu Wien*, No. 11, 1859; and *Med.-Chir. Rev.*, Jan., 1859.)

Among the accidents which may arise during the operation of tracheotomy, the detachment of the mucous membrane at the moment of opening into the air-passages is one that deserves the greatest attention, and that not only because of the great increase of danger it confers upon the operation, but also from the confusion and perplexity it causes to the operator just when he has most need of all his presence of mind. When Dupuytren confesses to an error arising from this cause, how easily an inexperienced operator may be deceived, and passing a canula into a wound which does not penetrate into the trachea, may only aggravate the asphyxia which it is his object to relieve. The rapid rectification of the error is only possible to

those who have been already warned of the nature of the accident by their own or other's experience.

The following case is in point. A soldier was brought into the Clinic, suffering from impending asphyxia, the consequence of some affection of the larynx. Sugillated leech-bites rendering the opening of any other part somewhat difficult, a free transverse incision was made into the crico-thyroid ligament. A canula was easily introduced; and, although with so superficially-placed an aperture no suspicion of a false passage arose, no air issued, and the patient sank lifeless. Without an instant's loss of time, an incision was carried from the middle of the transverse wound downwards, through the cricoid cartilage and three rings of the trachea, and the canula passed through the gaping wound, the thorax being at the same time powerfully compressed. After some minutes the artificial respiration restored the patient to consciousness. We need not pursue the details of the case, it sufficing to say that the man, rallying at first, died on the fifth day after the operation, in consequence of pneumonia, with œdema of the lungs. There had been frequent obstruction of the canula, and sometimes difficulty arose in its re-introduction, from the presence of a kind of valve at the upper part of the wound. At the autopsy, the vertical portion of the T-shaped wound was found to gape considerably; but the horizontal first-made incision was almost entirely covered by a thick cuneiform wedge. The wound had penetrated into the larynx, but the mucous membrane of this had undergone an extraordinary amount of thickening (more than three lines) throughout its whole circumference. It had become rigid and hard, and much resembled a thick fibrous membrane. Over a full square inch this membrane had become detached from the thyroid and cricoid cartilages and intervening ligament, and was turned downwards and backwards, so as to form a thick cuneiform valve, closing the cavity of the trachea from above, and almost completely separating the upper wound from the lower perpendicular one. The cartilages whence this had become separated were in a condition of necrosis. Through the thickening of the mucous membrane, the cavity of the larynx was so narrowed that its walls were almost in contact.

This detachment is an accident which occurs in laryngotomy much more frequently than would be expected from the little mention made of it in published cases of operation. It may always be supposed to be present when chronic ulceration or stenosis of the larynx becomes complicated with perichondritis, a complication which especially renders bronchotomy necessary, by converting a supportable chronic condition into one of impending suffocation. The separation of the mucous membrane which ensues may easily give rise to mistakes in operating, either through the fact of the knife not penetrating it, or the canula getting entangled in it, and perhaps only causing its still further detachment, in place of passing into the cavity of the tube. The nature of the occurrence is so little understood, that it has been usually attributed to some fault on the operator's part; but, in fact an artificial detachment of a normally adherent mucous membrane is entirely impossible.

ART. 97.—*Simultaneous Dislocation of both ends of the Clavicle.*

By M. MOREL-LAVALLÉE.

(Gaz. des Hôpitaux, No. 33, 1859.)

M. Morel-Lavallée reports to the Surgical Society of Paris a case of this extremely rare injury, occurring in a man, forty-four years of age, who was compressed between the wheel of a carriage and a pile of wood. When seen by the author on the following day, the attitude of the patient was expressive of injury to the clavicle; and, on examination, the sternal extremity of the bone was found to be luxated forward, as denoted by the presence of a hard, circumscribed tumour just beneath the episternal fossa, and the other signs of this dislocation. The acromial end of the bone was placed in the middle of the space separating the side of the neck from the shoulder, and it projected underneath the skin, rendering its outline easily traceable. The clavicle appeared to have assumed an anterior-posterior direction, and the relaxed trapezius formed a small, globular, soft tumour. The supra and sub-clavicular fossæ were completely effaced, but the distance from the acromion to the sternum was the same on both sides. The sternal dislocation was reducible, and could be maintained in place by bandages, but the external extremity of the clavicle resisted all efforts at reduction.

ART. 98.—*On the treatment of Axillary Aneurism.* By Mr. SYME, Professor of Clinical Surgery in the University of Edinburgh.

(Proceedings of Royal Med. and Chir. Soc., April 24, 1860.)

The object of this communication is to suggest that in general, if not always, the old operation is preferable to the method of Hunter in the treatment of axillary aneurism. With the view of supporting what might appear to be a rather startling doctrine, the author combats the generally received opinion, that the portion of an artery comprehended by an aneurism is not competent for the process of obliteration by ligature, and maintains that the mere circumstance of isolation from neighbouring connexions, while the vessel still retained its usual relation to the sheath, should not render it unfit for the process in question. In favour of this position, he quotes the successful result of ten operations performed by him in the old way for the remedy of traumatic aneurism at the bend of the arm, and also the remedy, by the same means, of a carotid aneurism too low in the neck for ligature, without opening the sac, which, if allowed to proceed, would have proved fatal, not only to the patient, but to his assailant who inflicted the wound, and who would certainly have been hanged in the event of its proving fatal. The author further relates two cases of axillary aneurism, not admitting of relief from ligature of the subclavian, in which amputation at the shoulder-joint was performed with success. But the principal ground of his suggestion was a case of axillary aneurism which had lately come under treatment in the Royal Infirmary of Edinburgh. The tumour was very large, distending the muscles of the axilla, and

projecting above the clavicle. It was rapidly increasing, and already showed signs of impending gangrene; while the patient's general condition, as manifested by a pulse of 130, and wandering ideas, was no less alarming. Ligature of the subclavian being quite out of the question, before proceeding to amputation at the shoulder-joint it was deemed proper to ascertain the state of matters in the axilla. But as this could not be done without the risk, or rather certainty, of a fatal hæmorrhage, unless the artery could be commanded in the first instance, an incision was made along the posterior edge of the sterno-mastoid, through the platysma myoides and fascia, so as to allow the finger of an assistant to reach the vessel where it issues from under the edge of the scalenus anticus and lies upon the first rib. The cavity was then opened, nearly seven pounds of coagulated blood removed, and both ends of the artery tied, as it was found to have been torn across. The patient made a good recovery, and was dismissed six weeks after the operation, able to resume his employment. The old operation, having thus succeeded in a case so formidable and unpromising, seemed worthy of adoption, not merely in cases unsuitable for ligature of the subclavian, but as preferable to the Hunterian method, on account of its greater facility, safety, and certainty. The author, having upon two occasions tied the subclavian artery for aneurism with perfect success, had no prejudice against this operation, but was forced to the conclusion just expressed, by his sincere conviction of what was due to expediency. He also suggests that the means employed for effectually commanding the artery perhaps admitted of more extensive application. It has been used by the author thirty years ago in his first operation for the removal of the superior maxillary bone, in which excessive hæmorrhage had been erroneously anticipated, by making an incision between the ramus of the jaw and mastoid process, so as to admit a finger to compress the internal maxillary artery on the neck of the condyle. The author remarked that in this case the superior maxillary bone was removed for the first time in Great Britain, and that the operation is the earliest to be found in the records of surgery.

ART. 99.—*Case of Gunshot Wound of the Heart where the patient survived three hours and a half.* By Mr. J. M. JACKSON, Surgeon to the 2d Battalion of Madras Artillery.

(*Indian Annals of Med. Science*, Jan., 1860.)

CASE.—On November 3d, 1856, at a quarter before eight o'clock, whilst Jemidar Mahomed Secundar, 5th Battalion Madras Artillery, was sitting at the door of his house, he received the charge from a pistol, fired by some individual who stood several paces in front of him. The charge consisted of two bullets, and struck him in the centre of the sternum; one of the bullets passing through the bone, the other glancing off and passing external to the thorax. During life the hæmorrhage from the wound was inconsiderable; the patient complained of great difficulty of breathing, and much pain in the loins and neighbourhood of the bladder, attended with intense desire to pass urine. He retained his faculties sufficiently to make a deposition, naming his assassin; but near eleven o'clock the dyspnœa became worse, and he

expired at a quarter past eleven p.m.—as near as possible three hours and a half after the receipt of the injury.

Autopsy six hours after death.—The body presented the appearances of a strong, healthy man. In the centre of the sternum was observed a circular inverted wound, which by probing could be found to pass through the bone into the cavity of the thorax. A second similar wound was observed about an inch and three quarters lower down, and a little to the left of the mesial line; and the probe was found to pass between the walls of the chest and the costal cartilages external to the thorax. On opening the thorax, the course of the first bullet was traced into the pericardium, striking the apex of the heart, and causing an opening into the cavity of the right ventricle, through which the tip of the little finger could be passed. The cavity of the pericardium was nearly full of coagulated blood and serum. The ball was then found to have passed through the diaphragm, behind the lesser curvature of the stomach; and finally, after having bruised the small intestines in numerous places, but without perforating them at any part, was found lodged loosely in the recto-vesical pouch of the peritoneum. The second bullet was traced for a short distance between the abdominal muscles; but as it was found never to have penetrated the cavities, it was not further searched for, the cause of death being, of course, most apparent.

The intense desire to urinate was, doubtless, accounted for by the irritation produced by the bullet lodged in the recto-vesical pouch.

ART. 100.—*A successful case of Gastrotomy.* By Dr. BELL.

(*Boston Journal*, vol. lxi; and *Medical Times and Gazette*, March 31, 1860.)

CASE.—On Christmas-day, 1854, Dr. Bell, of Wapello, Iowa, was summoned to see a man named Bates, æt. 32, who was reported to have just before swallowed a bar of lead, while playing juggling tricks with it. As the man suffered no inconvenience, Dr. Bell, believing that he was practising a hoax, dismissed him. On January 1st a consultation was called, and a close examination instituted, but entirely with negative results. Next day, however, gastralgia, vomiting, and prostration manifested themselves, and these symptoms continuing, an operation was performed on January 3d. Chloroform having been administered, an opening was made into the abdomen, extending from the point of the second false rib to the umbilicus. The hand being passed in, the stomach containing the bar of lead was grasped. The bar lay in a direction from right to left, the upper end resting against the walls of the stomach to the right of the cardiac orifice, the lower end in the greater curvature of the stomach, to the left of and below the pylorus. As it was impracticable to reach the upper end, I seized the bar between my thumb and middle-finger, and with the forefinger on the lower end of it, I retracted it upwards and backwards for the purpose of making the incision in the stomach as high up as possible. I then passed a scalpel along the side of the forefinger, and divided the coats of the stomach immediately at the end of the bar, making the incision parallel with the muscular fibres, and not larger than to admit of the removal of the lead. I then introduced a pair of long forceps, drew out the lead and placed the stomach in its natural position. The external wound was closed with the ordinary interrupted suture and adhesive straps, a compress applied, and a roller around the body. The time occupied in operating was twenty minutes. Considerable delay was occasioned by the protrusion of the contents of the abdomen, which had to be replaced before the operation could proceed. As soon as the effects of the chloroform

passed off, a quarter of a grain of sulphate of morphia was administered." The future progress of the case is given in some detail, which we have not space for. It may suffice to say, that the treatment chiefly consisted in the exhibition of morphia, one or two moderate venesections, and the occasional administration of an enema. By the 8th the external wound had nearly cicatrized, and by the 17th the patient was able to walk half a mile. He has continued well up to the time of the author's writing, viz., a period of five years. The length of the bar was 10½ inches, and its weight 9½ ounces avoirdupois.

ART. 101.—*Case of Abdominal Abscess, with extensive mortification, and recovery.* By Dr. JAMES YOUNG.

(*Edin. Med. Journal*, April, 1860.)

CASE.—The patient, who is a merchant, æt. 52, had occasion to visit the Shetland Islands, on business, in the autumn of last year. He returned early in September, after stormy voyages, in the course of which he suffered not a little from exposure to cold, and from sea-sickness.

After returning, he had his hands full of business in executing orders; was not sensible of having received any injury or harm other than fatigue, but felt still unwell; nor did he recover his usual health till the end of the month.

On the 2d of October, he was surprised to discover that the right side of the thorax and abdomen presented a swollen appearance, which he attributed to the exposure above mentioned, and mainly to cold; with what justice does not very clearly appear.

After taking a colocynth pill, and the lapse of a week, without benefit or diminution of the swelling, he called in the aid of a physician, who very properly, to remove dyspepsia, prescribed a dose of oleum ricini, and afterwards several sinapisms, to allay the pain which he was suffering in the right iliac region, without, however, any important result.

On the 18th of October, the patient was removed to the house of a near relation in Edinburgh, where he was immediately after visited by several practitioners, who were disposed to attribute the malady to enlargement of the liver; but that opinion was speedily changed. On the 20th and 21st of the month, the swelling, which had commenced in the right hypochondriac region, extended over the right lumbar and iliac regions. By and by it spread over the whole half of the trunk, from the axillary fossa down to below Poupart's ligament, and at this date was quite hard. On the 24th and 25th of October, the patient complained of pain over the right iliac region, and very speedily active inflammatory action set in, and diffused itself over the whole side. Smart antiphlogistic remedies were employed, but the inflammation seemed to run its course. On the 27th of the month we could not discover the presence of pus. On the 29th mortification began and spread rapidly, the gangrenous surface measuring sixteen by eleven inches. On the evening of that day I detected a collection of matter deeply seated, and resolved to give vent to it, entertaining the hope, by that means, of checking the further destruction of substance. I made a deep valvular opening in the right iliac region, with an ordinary bistoury; the consequence was, a discharge of putrid pus so great, as to fill well nigh two soup-plates. Around the abdomen a broad bandage was applied, which, on the following morning, was found soaked with the discharge. The fetor arising from the gangrenous parts was all but intolerable, filling not only the bedroom, but

the whole flat of the house. During the phlogistic state above referred to, the pulse rose to about 130, with constant pain; on the 29th and 30th it became very weak, and stimulants of brandy and wine, with invigorating soups, were administered, and willingly received by the patient. The day after the first operation, I performed a second, that of making a counter-opening *posteriorly*, which allowed the escape of a considerable quantity of pus. Large warm poultices were applied all over the gangrenous surface, each producing a copious discharge.

On the night of the 30th, the patient was almost wholly free from pain, the swelling, as may be supposed, much reduced, and the whole side of the abdomen presented the appearance of an immense slough; while the surrounding textures were completely infiltrated with pus.

The line of demarcation commenced on the 31st of October. On the 2d of November the whole slough separated itself, and displayed one large, deep, suppurating surface, over the side of the abdomen. The destruction of tissue was very great, and, as may be readily conceived, produced intense prostration of the powers of life. On the 3d of November, the pulse became all but imperceptible. Brandy, wine, and soup, with frequent enemata of beef-tea, and wine, were unsparingly administered every two hours. By this means was the strength maintained. On the 6th of the month, the process of repair had begun, as indicated by a healthy, granulating appearance.

On the 15th the pulse beat stronger, and was not so frequent; then, too, the patient had thrown off that hectic appearance which is so characteristic of a consumption of tissue, and which I had regarded, as in this case, the harbinger of death.

At this date lint dressings were substituted in place of poultices.

From the end of November, the general health of the patient continued to improve, benefited, I make no doubt, by the free use of the compound syrup of the phosphates of lime, iron, soda, and potassa.

The wound also became less and less, the integuments at the posterior and upper portions being supported, and adhesion produced by the slight pressure of a bandage. At the beginning of this year it was approaching to a perfect closure, the cicatrix measuring twelve inches in length.

The above simple yet veritable account of a very formidable disease, in its history, treatment, and result, I submit to my professional friends, leaving the facts to speak for themselves.

ART. 102.—*New method of reducing Strangulated Hernia.*

By Dr. B. F. RICHARDSON, of Cincinnati.

(*Amer. Med. Monthly*, Jan., 1860.)

Having been foiled in his attempts to reduce a case of strangulated hernia by the usual manipulations, Dr. Richardson writes as follows:

"Reflecting upon the mechanism in the *production* of hernia, I determined upon an expedient directly in opposition to the leading injunction of authorities. The patient was put upon his elbows and knees. Grasping the hernial tumour between my fingers and thumb, I pushed it steadily and firmly towards the inguinal ring; *he being at the same time directed to take a full inspiration and then make a strong and continuous expulsive effort, so as to distend the abdominal muscles as much as possible.* Between, as well as during the expulsive efforts, the tumour was steadily pressed towards the ring. The reduction

took place at the *second* effort. The time occupied was not over two minutes."

The philosophy of this plan is that the ring is distended by the *expulsive* effort.

ART. 103.—*A new modification of Wutzer's operation for Hernia.*

By Mr. HENRY LEE, Surgeon to King's College Hospital, &c.

(*Lancet*, Jan. 14, 1889.)

In the following case, in which a new modification of Wutzer's operation was performed, an instrument was wholly dispensed with, and the sides of the canal were brought together by a simple ligature. The ligature was allowed to remain and to ulcerate its way out, in order that any matter that might form should have a free exit. The consolidation of parts is produced not by the invaginated tissues so much as by the lymph effused around the ligature in the inguinal canal. Mr. Lee considers this modification of Wutzer's operation safer than some others lately introduced, inasmuch as it involves no separation of the skin from the subjacent tissues, and is consequently less likely to be followed by cellular inflammation. The plan of allowing the ligature to ulcerate its way out Mr. Lee also looks upon as attended with a twofold advantage,—namely, 1st, it ensures an escape of any matter that might form in its course; 2d, its prolonged presence in the inguinal canal renders the obliteration of that canal by the effusion of lymph more certain.

CASE.—Benjamin F—, æt. 16, was admitted into the hospital on the 17th of September, 1859, with an oblique inguinal hernia of the right side. The hernia descended every time the patient stood up, but was again easily reduced. Below the external ring there was a permanent enlargement, caused by a hydrocele of the cord. This was quite distinct from the swelling produced by the hernia. On the day of admission, the skin of the scrotum was invaginated into the inguinal canal, and a ligature was passed, by means of a curved needle, along the invaginated portion of skin, through the internal wall of the inguinal canal, and out through the skin of the abdomen. The needle was then withdrawn, leaving one end of the ligature protruding through the opening. The needle was then again introduced, by the same opening into the invaginated skin, through the external wall of the inguinal canal and through the skin of the abdomen. One extremity of the ligature was left free, projecting through this opening, and the needle was withdrawn. The two ends of the ligature were now tightly tied together, bringing into conjunction the opposite sides of the inguinal canal, and embracing a portion of the superjacent skin. The needle, in being introduced, was purposely made to pierce the walls of the hydrocele of the cord, and some transparent fluid escaped. No disturbance of any kind followed the operation.

September 22d.—The invaginated portion of skin had descended to its natural position.

24th.—The ligature was tightened.

25th.—A considerable amount of pain produced by the ligature; general health very good.

26th.—Pain relieved; there is now no impulse on coughing in the inguinal canal; the wound discharges freely.

October 4th.—There was a recurrence of the pain in the situation of the ligature during the night.

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6th.—The pain had subsided; no constitutional irritation.

17th.—The ligature, being held by a piece of tendon or fascia, was removed; there is no impulse on coughing.

November 4th.—Left the hospital a day or two after the last report, and has been at work since that period, wearing a truss; there is no impulse upon coughing; the external wound is healed; there is no mark on the scrotum where the ligature passed. The hydrocele of the cord had been apparently quite cured. He was directed to discontinue his truss.

Ten days later, he again presented himself, having continued his work without a truss. The pillars of the external ring could be felt separated, but above this the inguinal canal appeared quite closed.

December 5th.—This patient again presented himself, having continued his work without a truss. The hernia appeared perfectly cured.

ART. 104.—*On a new method of effecting the radical cure of Hernia.*
By MR. JOHN WOOD, F.R.C.S., Assistant-Surgeon to King's College Hospital.

(*Proc. of Roy. Med. and Chir. Soc., Feb. 28, 1860.*)

The peculiarities of structure of the parts concerned in inguinal hernia, of which especial advantage is taken in the operation proposed and practised by the author, are—1st, the mobility and sliding power of the skin in the groin, owing to the synovial character and loose areolar meshes of the deep layer of superficial fascia; 2d, the total absence of fat from the areolar tissue of the scrotum, its density, elasticity, toughness, and great vascularity enabling the surgeon to invaginate it into the inguinal canal, to retain it there by stitches, and cause it permanently to adhere to its sides and to the cord; 3d, the protection afforded to the peritoneum and vessels (epigastric and circumflex iliac) by the intervention of the fascia transversalis, and its connexion with the deep surface of Poupart's ligament; 4th, the formation by the conjoined tendon of the internal oblique and transversalis muscles and triangular ligament of the greater portion of the posterior wall of the canal, and the feasibility of raising the former by the finger passed into the canal behind the lower edge of the internal oblique muscle, so as to pass a needle through it and the internal pillar of the external abdominal ring together. The author states that the methods respectively practised by Ragg, Bonnet, Gerdy, and more lately by Wützer of Bonn, and Rothemunde of Munich, most frequently fail in producing a permanent cure chiefly by their not obtaining a hold upon the posterior wall of the canal, and their securing only the anterior portion of the fold produced by invagination, leaving the posterior half of the fold ready for the reception of a fresh portion of intestine. The objections to the introduction of a hard dilating plug into the invaginated fold of skin and its retention, by Wützer's method, are as follows: that the skin and fasciæ intervening in two layers between the compressing hard surfaces and the serous laminae of the invaginated sac, ward off from them in great measure the effect intended,—namely, that of adhesive inflammation; while the absence of counter-pressure behind the posterior fold renders the dilating force of the plug almost nugatory, unless sufficient expanding power to cause sloughing be employed—to

the great distress, not to say danger, of the patient. The dilating action of the plug upon the canal and external ring leaves the latter in a worse condition than before in case of the failure of the operation. The principle of plugging up a dilatable aperture like the inguinal opening is surely a false one. The invaginated skin invariably descends when the consolidation is absorbed, the latter being temporary only in its duration. The principle of the author's operation is directly opposite to that of dilatation,—namely, that of drawing together and compressing the anterior and posterior walls of the canal in its whole length, and their union by the adhesive process with the invaginated fascia of the scrotum, which is detached from the skin and transplanted into the canal, the skin being left to adhere below to the approximated margins of the external abdominal ring. By this means the posterior wall of the inguinal canal is made to act as a valve to prevent any future descent of the bowel, shutting up the superior opening by becoming united to the anterior wall through the medium of the scrotal fascia, which thus affords a very highly organized and vascular connective tissue between the tendinous surfaces, which it would be very difficult to cause to adhere together otherwise. The fascial invagination becomes likewise firmly adherent to the spermatic cord. This continues to be effective even when the temporary effusion of lymph is reabsorbed.

The operation.—This consists, 1st, in detaching the scrotal fascia from the skin over the lowest part of the hernial protrusion with a tenotomy-knife, and then invaginating the fascia into the canal with the forefinger; 2dly, in passing a strong, well-curved needle, fixed in a handle, armed with a stout, thick thread, and guided by the finger, through three points in the canal—viz., the conjoined tendon and the triangular fascia (forming the posterior wall), and the external pillar of the ring close to Poupart's ligament (forming the anterior wall of the canal). The ends of the ligature are left in the two former punctures, and a central loop in the latter, passing through the pillars of the external ring, and through the same aperture in the skin of the groin. This may readily be done by sliding upon the subjacent aponeurosis. 3dly, a cylindrical or flattened compress of glass or boxwood, two inches and a half long by one inch wide, is tied firmly upon the axis of the canal by passing the ends of the ligature through the loop, and tying over the compress. Before tightening the ligature, the surgeon should satisfy himself, by passing the forefinger through the external ring, that the ligatures draw upon the posterior wall. The opening in the scrotum should be tucked well up to, but not within, the external ring.

In recent cases of hernia, in which the sac is small and possesses an intimate vascular connexion with the peritoneum, and a very slight one with the cord, it may be pushed back into the superior opening, and the ligature applied altogether external to and without puncturing the sac, thus diminishing very much the chances of peritoneal inflammation. But in old and large herniæ, the sac has a more intimate vascular connexion with the scrotum and cord, and constitutes, as it were, a separate structure, distinct from the peritoneum. In these cases the sac is necessarily invaginated with the fascia, and the liga-

tures pass through it. In these the inflammation set up in the sac is much less liable to spread into the abdominal cavity, especially when the upper orifice is closed by the ligature. In a large sac the adhesive process is necessary to complete obliteration of the canal, and to prevent future complications.

The compress is removed from the fourth to the seventh day, according to the degree of action set up. The ligatures may be left in a week or two longer to act as conductors for the discharges, and to keep up consolidating action as long as may be desirable. When the sac is punctured, serous fluid flows from the wound in greater or less quantity during the first three or four days.

The author calls attention to the action of the rectus muscle upon the inguinal canal through the conjoined tendon, in drawing backward the posterior wall of the hernial canal, thus aiding the dilating action of the protruding bowel in the production and growth of the hernia. The effect of the ligatures and consequent adhesions in his operation directly counteracts this action of the rectus. He considers that the first tendency to oblique inguinal hernia, so often hereditary, is owing to deficient development of the lower fibres of the internal oblique producing an imperfect covering to the internal ring. In some of the cases operated on, he has succeeded in supplementing this deficiency by passing the scrotal fascia well up in front of the internal abdominal ring, and securing it to Poupart's ligament in that position.

He considers that the chief source of failure in the performance of his operation, especially in large and old cases, is in not securing a hold upon the posterior wall. By simply attaching the fascia to the pillars of the external ring, and drawing the latter together, the hernia, though prevented for a time from descending into the scrotum, still occupies the canal, and will, sooner or later, again dilate the external ring, unless constantly bolstered up by a truss. The closing of the external ring by the lower ligatures, in this operation, contributes much, however, to secure in its new position in the canal the transplanted fascia.

In small cases of direct hernia, the closure or obliteration of the external ring only may be effective in producing a cure, if care be taken to obtain a hold with the inner end of the ligature upon the triangular fascia covering the border of the rectus, immediately behind the opening of the external ring.

In noticing the objections to the plan, the author shows that, by properly protecting the point of the needle with the finger, and keeping in front of the fascia transversalis, all danger of wounding the epigastric and circumflex iliac vessels or the bowel was guarded against.

The fear of peritonitis is avoided in recent cases (in which it is most to be dreaded), by not puncturing the sac at all, but closing up the tendinous opening external to it. In old cases, adhesive action may be set up in the sac without fear of its spreading to the peritoneum, as the results of numerous cases have shown. The objections made to the limited incision into the skin of the scrotum (which is little more than a puncture) he considers to be puerile. Its advantages in permitting the escape of discharges are evident.

Full reports of fifteen cases of hernia (all inguinal) are appended to the paper.

ART. 105.—*Hæmorrhoids and Prolapsus of the Rectum: their pathology and treatment; with especial reference to the application of nitric acid.*
By Mr. HENRY SMITH, Surgeon to the Westminster General Dispensary.

(2d edit., 12mo, Churchill, pp. 106, 1860.)

There are few affections in which the surgeon can obtain greater credit for himself and give greater satisfaction to his patients than by the successful treatment of hæmorrhoids and prolapsus of the rectum. Whatever will contribute towards this desirable end is a boon to the profession, and this Mr. Smith's little book may rightly be considered. It sets forth clearly and fully, and with a sufficient array of well-told illustrative cases, the nature and most effective treatment (widely tested by the author) of the affections named upon the title-page, and every general practitioner will in especial find his gain in possessing a copy of the work. One example, *apropos* of hæmorrhoids, will suffice to justify this opinion.

"I have stated, whilst describing the nature of internal hæmorrhoidal diseases, that the condition in which they are found varies. I have endeavoured to point out those cases to which the operation of the ligature is applicable, and have stated that this practice is necessary and justifiable in those instances where the tumours are large, mainly composed of tissues in which the veins predominate, and have become indurated. There are, however, other instances where the hæmorrhoidal tumours are small or moderate in size, and where they are evidently composed of morbid texture, in which the small arteries rather than the veins are interested, as shown by their bright florid aspect, and their tendency to pour out arterial blood whenever the patient is at the closet, or when the tumours are handled. These tumours are generally not very prominent. They produce exceeding annoyance, and indeed, prove more destructive to the health, as they generally yield a great deal of blood. Now, in such cases, the ligature will undoubtedly be as effective as in the other instances before described; but this proceeding is not necessary, as the local use of the nitric acid is so eminently suited to them. The relief which one single application of the acid gives in these cases is remarkable, and an excellent cure may be effected, if the whole of the diseased texture be subject to its action.

"About these particular kind of cases, there is no doubt in the mind of any surgeon who has seen the nitric acid applied in a proper manner. There is, however, a mixed class of cases where the remedy is an uncertain one, but in which, nevertheless, the surgeon is justified in trying it, and where I sometimes have succeeded when I little expected it. I refer to those cases where there is a hæmorrhoidal mass, consisting perhaps of one tumour, mainly composed of venous ramifications, and of a bluish colour, with one or more presenting the characters of the florid sessile pile; or one portion of the tumour or

tumours may present the dark-blue appearance and thickened membrane, and another portion of it may be brightly vascular, have its mucous covering granular and slightly ulcerated. In this kind of mixed case, I do not hesitate to try the acid if the patient is particularly desirous, but I make a point of stating that it is impossible to depend upon any curative action in such, although in some instances the remedy has acted most efficiently.

"To apply the agent to those cases where the tumours are large and indurated, and have a deep-blue colour, would be perfectly useless, and only bring discredit upon the nitric acid as a means of cure in other kinds of hæmorrhoidal disease. I particularly wish to point this out, as it is very probable that some of my brethren think that I am an enthusiast with regard to the use of this remedy, and recommend it too strongly. On the contrary, I always urge upon the patient the necessity and propriety of the ligature in such, and even in the more doubtful cases just alluded to. It is not necessary, because a surgeon may have reason to adopt, with confidence, a particular kind of remedy, that he should be an enthusiast, or should be blind to the value of those other means which are generally recognised as suitable and efficient.

"It is, however, in that class of cases not unfrequently met with, where there is not so much any decided hæmorrhoidal tumour, but where there is a generally congested and relaxed condition of the mucous membrane of the rectum, attended with bleeding to a greater or less extent, that the nitric acid acts so beneficially. Dr. Houston has compared this condition of the rectum not inaptly to that of the thickened conjunctiva after long-continued ophthalmia. The application of the acid to the diseased points from which the bleeding proceeds, will soon remedy all the bad symptoms."

ART. 106.—*Case of extraction of a bullock's horn introduced per anum into the abdominal cavity.* By Mr. W. G. HUNTER, Acting Professor of Surgery in Grant Medical College.

(*Trans. of Medical and Physical Society of Bombay, 1860.*)

CASE.—R. B.—, a young man, an imbecile, and a resident of Coorla, was admitted into Jamsetjee Jejeebhoy Hospital, about noon of 26th April, 1859. It was reported that, in order to relieve some colicky pains to which he is subject, he had, the day previously, introduced a bullock's horn per anum into the abdomen, and that several attempts had been made by his friends to extricate the horn, but without success, in consequence of which he had been brought to the hospital. On examining the abdomen, the parietes in the right hypochondrium close under the margin of the ribs were observed to be pushed forward in a conical manner, to the extent of half to three quarters of an inch. A hard circumscribed body could be easily felt occupying the greater part of the abdominal cavity, and passing in a direction from above downwards with a slight inclination from right to left. A slight discharge of blood and mucus was observed taking place from the anus. On introducing the index finger about two inches up the rectum, a hard, ragged, and hollow substance was detected, and was made distinctly visible by an assistant dilating the gut with his fingers. The mucous lining membrane of the bowel was in a highly injected state, and covered with a gummy-looking mucus. Beyond

very slight febrile excitement and a rather quick pulse (85), there were no signs of constitutional disturbance. The introduction of the horn, it was said, had been effected with but little difficulty, and the hæmorrhage had been trifling, not more than four ounces altogether.

Its removal was effected in the following manner: The patient being placed under chloroform, the lower extremities were bent into the lithotomy position, and the buttocks brought to the edge of the bed. An assistant then well dilated the bowel by making traction on the *sphincter ani* with his fingers; the horn was then seized with a pair of lithotomy forceps, but, as they readily slipped, a tooth forceps was substituted. Firm traction was then made in an undulatory manner, and its extraction gradually accomplished. A wet pad and bandage were applied over the abdomen, thirty minims of tincture of opium exhibited, and milk diet ordered. During the first fifty or sixty hours, defæcation was preceded by, and accompanied with, a slight discharge of dark blood; this, however, gradually and steadily subsided, and the patient was discharged on the 6th day (1st May) perfectly well.

The horn after extraction was observed to be covered with a bloody mucous. It measures eleven inches in length, and is extremely rough from exposure; it having been picked up by the patient as it was casually lying on the roadside.

ART. 107.—*On the radical cure of Varicocele by subcutaneous section.*
By Mr. HENRY LEE, Surgeon to King's College Hospital, &c.

(Pamphlet, Churchill, pp. 24, 1860.)

Mr. Lee introduces his subject by briefly noticing the operative proceedings in regard to varicose veins that have been recommended by Sir Benjamin Brodie. He observes, that the operation of simple subcutaneous section offered no defence against hæmorrhage, nor against the absorption of the products of decomposition through the divided ends of the vein. These may, indeed, be efficiently closed by natural processes; but still accidents are liable to occur. Even in some of the cases noticed by Sir B. Brodie, there had been inflammation, and in some erysipelas. Sir Everard Home recommended ligature; but, in some cases treated in this way, venous inflammation and death followed.

In 1853, Mr. Lee adopted the plan of passing needles under the vein, one above and another below the part to be divided, and twisting a ligature round the ends of the needles, in the form of a figure of 8. Coagulation of the blood in the part lying between the needles was produced in two or three days; the vein between the needles was then divided; and union was generally complete three or four days afterwards. In one case only were there severe local and constitutional symptoms; and, in this instance, it was found that one of the needles, instead of passing under the vein, had transfixed it, so that morbid matter had found its way under the needle into the circulation.

The obliteration of the vein is favoured by the formation of coagula; but still the same object can be obtained even when no coagulum exists, if the needles are properly introduced. At the suggestion of Mr. Bowman, therefore, Mr. Lee has, in several cases, and with good results, divided the varicose vein at once after the application of the

needles and ligature, without waiting for the formation of a coagulum. If the vein is properly secured, no morbid matter can find its way into the general circulation.

The operation described by Mr. Lee had been performed several times by other surgeons; and, as far as he knows, without the occurrence of serious symptoms. In performing the operation, the vein should be raised with the finger, and the needle introduced. Care should be taken that the needle pass behind the vein, especially if the vessel be large; for, if it be transfixcd by the needle, there is a channel left for the passage of decomposing matter. This risk, however, diminishes considerably in small veins, the calibre of which is often obliterated by the needle itself when they are transfixed.

After the introduction of the operation for varicose veins of the lower extremity, opportunities were soon afforded of applying it in cases of varicocele. In this affection, it seems almost impossible to avoid perforating some of the veins; but, as far as Mr. Lee knows, no bad results have followed. In operating on the spermatic veins, the author preferred allowing the coagulum to form before dividing the vessels; inasmuch as there is here greater liability to hæmorrhage, from the difficulty of entirely including the varicose mass, from the collateral circulation, &c. In operating, the patient may take a little chloroform; but not so much as to produce perfect insensibility. The varicose mass is then taken up with the fingers, and rolled over until the vas deferens is felt to escape. The needles are then introduced, so as to pass between the veins and the vas deferens; and the ligature is drawn moderately tight over them. On the third day, the part is held as before; and, a knife being passed between the vas deferens and the veins, its edge is turned towards the skin, and the veins are divided. Care must be taken that the knife do not pass below more veins than are ligatured. In about four days, the needles and ligatures may be removed; and, in another day or two, the patient may get up. It is advisable not to cut off the ends of the needles too close, lest there should be difficulty in removing them.

Mr. Lee illustrates his remarks by the narration of several cases.

ART. 108.—Remarks on a rare variety of Tumour of the scrotal coverings.

By M. A. VERUEUIL.

(*Gaz. Hëbdom. de Mëd. et Chir.*, Sept. 16, 1859.)

The author reports two cases of subcutaneous erectile venous tumours of the scrotum, increasing under the influence of warmth and much exercise, and diminishing by cold and rest. When extirpated, the growth is found to be composed of erectile venous tissue, of a dense structure, and even hard at certain points from plastic deposits, containing phlebolites, and a large number of cysts filled with serous or sero-sanguinolent fluid.

The conclusions of M. Verueuil are contained in the following summary.

1. The scrotal veins, as those of other parts of the body, are liable to take on varicose enlargement.

2. These vessels are of three classes: one set supplying the testis, another ramifying in the subcutaneous cellular tissue, and the third belonging to the integuments.

3. The varicose condition may assume three distinct forms, referable to the three classes of veins.

4. Two of these forms are well known, constituting varicocele and cirsocele, which are observed separately or combined. They represent deep and superficial varix of the lower extremity, of which the former is by far the most frequent. The same may be said of varix of the scrotum.

5. The third form, which may be combined with either of the two preceding, is not sufficiently known; it is seated in the subcutaneous veins of the scrotum, and resembles erectile venous tumours situated in deeper parts.

6. They may be congenital, or appear during infancy, and may remain stationary for a number of years. Being indolent, of moderate size, and without any tendency to ulceration, they do not excite attention, and only require palliative treatment.

7. They increase the already known number of morbid conditions of the scrotum, and on this account merit special attention. In other respects they enter into the same general history of erectile tumours, which are often found at the period of birth.

8. On the approach of puberty these tumours show a great tendency to spontaneous inflammation. Their superficial position, doubtless, predisposes them to it, but the inflammation is benign, and readily yields to treatment. It, however, produces changes in the erectile tissue, rendering extirpation necessary, if an operation is decided upon.

9. This inflammation may be favorable if it attacks the whole tumour, by producing coagulation of the blood in all the vascular branches. On the other hand, it is equally as liable to produce injurious effects.

10. At the commencement, erectile, subcutaneous tumours of the scrotum may give rise to some difficulty in their diagnosis. The symptoms by which they can be recognised are—that they are seated in the scrotal coverings; that the cord and testis are not involved; the absence of pain, their slow progress, their soft consistence at the start; and the changes produced upon them by rest, cold, or warm applications. The diagnosis will be more easy if the skin presents varicosities, as it will after a time.

11. The prognosis is more serious, if, on account of the increasing size of the tumour, an operation becomes necessary, since some danger always attends surgical interference in varicose enlargements. It will be better to operate before the tumour has attained a large volume, and during manhood, a period very favorable to the success of all operations.

12. If the tumour be small, it may be destroyed by cauterization, or by means of Breschet's forceps, with angular branches. Coagulating injections, or the seton, are not proper. When of large dimensions, extirpation will be the only resource.

ART. 109.—On a modification in the treatment of Hydrocele.
By M. VOILLEMIER.

(*L'Union Médicale*, No. 125, 128, 1880.)

M. Voillemier recommends the following supplementary procedure in the treatment of hydrocele by iodine injection, having found it prevent the delay and relapse not infrequently met with in voluminous hydrocele. The object is to diminish the amount of secondary secretion, not by applying compression, but by affording firm support to the scrotum.

After the injection has been evacuated, he passes three or four strips of diachylon, each two centimetres in breadth, beneath the scrotum, their length being sufficient to admit of their ends being crossed above the pubis. The crossing must not take place too near the base of the penis, or œdema will be produced there. The base of the scrotum is circularly surrounded by other strips, to prevent the testes rising towards the rings as much as possible. The strapping thus far applied forms a framework to give support to other shorter strips which are extended from the perineum to the base of the penis, and complete the covering of the scrotum. Triple or quadruple layers of such strips should be applied, and then, by means of a warm hand, converted into a homogeneous covering or thick carapace. A suspensory bandage is then put on, and, if the patient is not still in pain from the injection, he may be allowed to walk about. On the second or third day the strapping is removed, and generally a swelling is observed at the bottom of the scrotum, which, at first, is supposed to be due to the presence of the testis. It is, however, only œdema, doubtless due to fluid secreted in the tunica vaginalis, and which, unable to distend this, owing to the resistance offered, has passed through the wound made by the trocar, and become infiltrated into the cellular tissue. Generally, very little fluid, or even none at all, is found in the serous cavity, the tissues presenting a doughy feeling, as if containing a soft, plastic mass. The testis on the affected side has mounted up towards the ring in spite of the diachylon, and is usually found somewhat large and tender, but much less so than after the ordinary operation. The diachylon should be renewed every forty-eight hours, and at the end of eight or ten days the patient is cured; although, as a matter of precaution, he must continue to wear a suspensory bandage.

The chief advantage of this mode of treatment is, that its duration is one half less than that of the ordinary iodine treatment; while the patient is at once enabled to get up, and in some instances even to walk about. M. Voillemier employs as material for injection the undiluted tincture of iodine, to which a little iodide of potassium is added; and he allows the injection to remain in three or four minutes. Where there is reason to anticipate little susceptibility to inflammation, he leaves a little of it in, as under the influence of the passive compression exerted by the plaster, an insufficient rather than too great an amount of inflammation is to be feared.

ART. 110.—*On the duties imposed on surgeons by Lithotrity.*

By M. CIVIALE.

(Mon. des Hôpitaux, No. 94, 1859; and Med.-Chir. Review, Jan., 1860.)

M. Civiale took the occasion of two favorable lithotrity cases to make the following observations to his class at the Necker Hospital:

As long as cystotomy constituted the sole surgical resource in a case of stone, the conduct to be followed by the surgeon was distinctly marked out. The rule was, at least as regards the adult and the aged, to delay the operation as long as life continued supportable. It was founded upon the fact that any cutting operation on the bladder, independently of the circumstances under which it may be resorted to, gives rise to real perils, and that under the most favorable conditions, both as regards the size of the stone and the state of the patient, the hopes of the practitioner may be belied. Under these circumstances, a prudent and experienced practitioner, suspecting the existence of stone, pursued a judicious course in not communicating his suspicions to the patient as long as the pains were slight and of short duration, and capable of being rendered very bearable by the use of internal remedies: and a very great number of facts prove—1st. That the stone may remain stationary, and many patients who would have succumbed to an operation performed at an early stage, have lived for a long period without suffering excessively; and 2d. That the operations performed at a later period, when functional disturbances have rendered them necessary (and always before the condition of the patient has become seriously deteriorated), are not followed by notably more unfavorable results. This rule constituted the basis of all rational practice, and has received the sanction of experience and the consent of the greatest practitioners. No serious arguments can be opposed to it; and some exceptional cases or isolated opinions, founded on an insufficient experience, do not possess this character.

Since lithotrity has become the general method of treating stone, this rule of conduct has undergone a change; for all is different, both as regards the manner of proceeding and the result obtained. The operation succeeds with greater certainty in proportion to the small size of the stone, a few days' treatment then securing the patient an easy and durable cure, unattended by unfortunate consequences. All calculous patients are in these conditions at one part of their malady, and may then rely upon the benefit of treatment. Lithotrity, too, presents the invaluable advantage of saving the patient from the suffering from stone, and especially of preventing the development of the organic lesions of the bladder, which constitute a long series of complications, involving the operator in uncertainties and mistakes.

Looking at these general results, it might naturally be expected that every enlightened and conscientious practitioner would make it a rigorous duty to carefully study the early rational signs of the presence of stone, and have recourse to the new means of exploration

which art has furnished for establishing an exact diagnosis. It is much to be regretted that this is not the case, the same line of conduct being now pursued with regard to lithotrity which formerly was properly applicable to lithotomy. Practitioners of high repute may be daily found not making a stand at the early symptoms, and without assuring themselves as to the presence of stone, merely palliating these by the use of sedatives. Such means succeed all the better, inasmuch as the symptoms of stone are often interrupted, especially at an early period: and when these return, the same means are again prescribed, the patient is sent to Vichy, or appropriate regimen is directed—the idea of stone never being raised for fear of alarming the patient or his friends. Every practitioner is aware that, in order to establish the diagnosis of a calculous affection, a direct exploration is essential; but on the patient exhibiting any signs of fear, this is indefinitely adjourned: and thus both patient and practitioner live in ignorance of what really exists, both seeming to fear recognising the true condition of things, and remaining in a state of deceptive calmness and security. In M. Civiale's 'Traité de l'Affection Calculeuse,' he has related a great number of curious facts, each more melancholy than the other, which only too plainly exhibit the deplorable consequences of this mode of procedure, which leads the patient fatally to his end, and involves the practitioner in the most painful errors. In the present paper he adduces additional instances of the mischief accruing from this temporising practice—the stone in some of these having acquired such a magnitude as to be no longer amenable to lithotrity, while in other cases death ensued upon operative procedures too long delayed. M. Civiale finally observes that it is impossible to relieve a practitioner of the responsibility of events, the occurrence of which he might easily have prevented, had he made or caused to have been made a careful exploration at the period of the first appearance of the symptoms. In some instances the patients have been nearly on the point of bringing this point of medical responsibility before the legal tribunals.

ART. 111.—On the Operations for Stone in the Bladder. By Mr. TEALE, Surgeon to the Leeds General Infirmary, Member of the Medical Council.

(*Medical Times and Gazette*, Dec. 10 and 31, 1859.)

This paper contains an account of the changes that have occurred in Mr. Teale's views and practices as to the treatment of stone in adult males, since his first operation in 1826. These successive changes may be thus arranged:

1. Lateral lithotomy in all cases.
2. Lateral lithotomy the rule, lithotrity the exception.
3. Lithotrity the rule, lateral lithotomy the exception.
4. Median lithotomy the rule, lithotrity the exception.

"In the early part of my practice," says Mr. Teale, "lateral lithotomy was alone thought of. As soon, however, as lithotrity

received its last great improvement from the introduction of the screw-lithotrite. I adopted the operation; first in select cases where the stone was small: afterwards it was extended to stones of larger size, until it became, in my estimation, the operation to be generally preferred, leaving, however, a large number of exceptional cases, in which the stone was great, or the prostate much enlarged, or the bladder highly irritable, for lateral lithotomy. The next change was caused by the revival of median lithotomy in an improved form; and from the limited experience I have yet had of this operation, I feel a strong conviction that it will be the one which I shall generally adopt, leaving lithotritry to the few exceptional cases suitable for it, in which the patient has an insuperable objection to the knife.

"It may be asked, why was lateral lithotomy superseded in part by lithotritry? In reply, it may be said that the acknowledged fatality of the former operation induced surgeons to test the value of any other proposal which held out a better hope of success. In my own practice, thirty-five operations of lateral lithotomy in adults were attended with thirteen deaths, or one death in two and two thirds of the cases. By the introduction of lithotritry, the result is improved by the addition of fifteen cases, with only one death, giving a result from lateral lithotomy and lithotritry conjointly, of fifty operations in adults, with fourteen deaths, or one death in three and a half cases.

"If the question were now asked, why I would resort to any other operation when lithotritry has furnished me with a result of fifteen cases with only one death, I would reply, that in each case so treated, the patient has generally had to submit to several operations or 'sittings,' and that any one of these sittings might have been, as some of them were, followed by symptoms severe enough to cause serious anxiety.

"In the hope of diminishing the risks to which, from the plurality of operations, the patients subjected to lithotritry are exposed, and of obtaining better results than lateral lithotomy affords, I have been desirous of giving a fair trial to the median operation.

"I have now operated on adults seven times, three of these operations being performed on the same individual. The result of these has been one death in seven operations. If such a proportion of success can be maintained, it would be a great gain, as far as my own experience goes, upon lateral lithotomy, or even upon lateral lithotomy and lithotritry conjoined. I have great expectation that such will be the result; for, if we except the fatal case already described, presenting extraordinary difficulties, which might probably be overcome hereafter, the remaining six recovered so favorably that it was difficult to believe the patients had been subjected to a grave operation. They formed a marked contrast with the adult patients who had undergone lateral lithotomy, and who subsequently recovered.

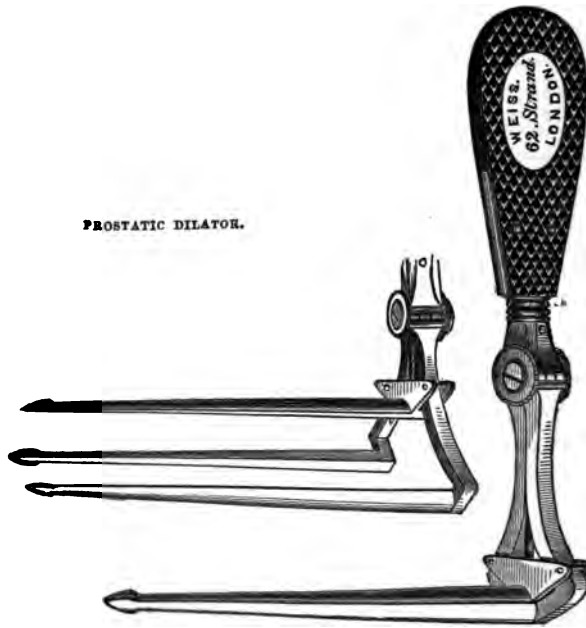
"I have no hesitation in extending the median operation to children, although lateral lithotomy in children has presented me a result of eighteen operations without a single death. Yet a considerable number of these patients were seriously ill, and caused me much greater anxiety than has been felt for the few young subjects whom I have seen under the median operation."

Mr. Teale also describes two instruments which he has found of

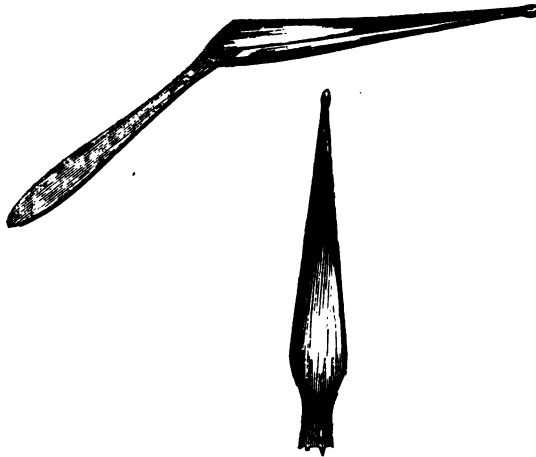
service in the median operation—a prostatic dilator and a probe-gorget for children.

The prostatic dilator. The blades of this instrument are five and a half inches in length, terminating in a slight bulb, which would check the tendency they might otherwise have to recede from the bladder. The dimensions of the instrument, of which the engraving gives a good representation, are the following: The blades five and a half inches long, their conjoint diameter when closed, three quarters of an inch at the base, and half a inch at the bulb.

PROSTATIC DILATOR.



The *probe-gorget* was used in a case in which Mr. Teale performed the median operation successfully in a child, which case is not referred to in the previous account. This instrument is regarded less as a dilator than as a guide to the finger, which in young subjects is the real dilator. The blade of this instrument is three inches in length, and may be described as a hollow half-cone, three fourths of an inch in diameter at its base, terminating at the apex in a bulbed probe half an inch long.



PROBE-GORET.—The proportion is exactly two fifths of real size.

ART. 112.—*On Median Lithotomy.*

By Mr. ERICHSEN, Surgeon to University College Hospital.

(*Lancet*, Dec. 17, 1859.)

In the following remarks, after describing some modifications of Mr. Allarton's operation which he has found to be useful in practice, Mr. Erichsen canvasses the advantages and disadvantages of median lithotomy.

"I have found it advantageous," he says, "to modify this operation in one or two points. The first, I think of some utility, is to use—which I did in the last case in which I cut by the median operation, about a week ago,—instead of the ordinary curved staff, a rectangular one, grooved from about one inch above the elbow nearly to the point, like this I show you, corresponding to the 'Glasgow staff' introduced by Dr. Buchanan. Its use and advantages are, that, when in the bladder, the angle rests against the apex of the prostate and can be felt in the perinæum, and you can judge of the exact point where to enter the knife (directing it so as to open the groove just below the angle), which you cannot do with the curved staff; the incision upwards also is limited, and there is, besides, less danger of wounding the rectum, the urethra being drawn upwards away from it, and not pushed down against it as with the ordinary staff. The knife should be straight-backed, having the blade not more than two inches long; you can then tell to what depth you have entered it. I have found it advantageous in practice to carry a beaked director, shaped like a large hernia director, along the groove, after the incision has been made in

the urethra, so as to open up the canal and thus to clear the passage for the finger. After having opened the urethra, I think it is better to dilate the prostate before withdrawing the staff: by pushing the finger slowly, with a rotatory movement, along its side, you get into the bladder with more ease and certainty; whereas, if you only use the probe, you may find it not stiff enough, and you are apt to push the bladder before you. It has been proposed to employ mechanical means of dilatation, instead of the finger, to open up the prostate and neck of the bladder; and I have had some dilators constructed by Mr. Coxeter on the principle of the two-bladed dilator of the female urethra. I have used them on the dead subject, as some of you have seen, but I have not ventured to use them on the living, lest, by the employment of screw power, the same deep lacerations of the neck of the bladder should result that were so fatal in the old Marian operation. Indeed, I believe that their use would be fraught with danger from their liability to occasion rupture of the neck of the bladder, and if persisted in, I cannot but fear that they will bring discredit on the operation, reducing it to the condition of the old Marian, and repeating the dangers of that procedure. No safe dilatation can be effected except by the finger, with which no harm can be done, whilst it appears to me that the greatest possible mischief may be done with screw dilators.

"In order to make a proper comparison between these two operations—the median and the lateral—we must take them seriatim. Now what are the dangers of the lateral operation? 1st, the difficulty in some cases of getting into the bladder; 2d, hæmorrhage; 3d, the risk of wounding the bulb; 4th, of wounding the rectum; 5th, of too extensive an incision in the prostate, and opening up of the pelvic fascia; 6th, the difficulty in extracting the stone.

"With respect to the general ease and simplicity of the operation, there is no doubt the surgeon will be more skilful in that operation which he has more often performed: so far as ease and simplicity are concerned, there is no great difference between them. In the lateral operation there is very seldom any difficulty in getting into the bladder, though surgeons have sometimes been foiled in this; but surgeons of the greatest skill have also had great difficulty in getting into the bladder in the median operation. The bladder tends to get pushed upwards and backwards before the finger, especially in children in whom the prostate is not developed; and unless the neck of the bladder be well opened, there appears to me to be a danger of tearing across the membranous part of the urethra and of pushing the separated bladder on before you. So far as facility in entering the bladder, then, is concerned, the two operations may be placed much in the same category.

"As to the second danger—hæmorrhage. In this respect, the median has decidedly the advantage. If the incision be made in the middle line, without wounding the bulb, although there may be tolerably free bleeding at the time, yet there is no vessel that can furnish a dangerous consecutive hæmorrhage; whilst in the lateral there are the dangers of arterial and of profuse venous hæmorrhage, the knife coming into close relation with the artery of the bulb and others of

some size. If the object were, therefore, simply to save blood, the median is so far better than the lateral. But, after all, the danger of excessive hæmorrhage in the lateral operation is but very small. With care, it will rarely happen that the patient loses a dangerous amount of blood.

"Point third—wound of the bulb. This may occur in both, but is more difficult to avoid, and, indeed, very likely to happen, in the median, as the bulb sometimes so overlaps the membranous part of the urethra that it is difficult not to cut it; whilst in the lateral operation, by cutting low down, and entering the groove of the staff well back, and from below upwards, this may always be avoided. It is true that division of the bulb in the mesial line seldom gives rise to much hæmorrhage, but cases have occurred to my knowledge, though not in my practice, in which patients have died from this cause after the perineal section, the blood regurgitating back into the bladder, and filling that viscus.

"With respect to the fourth point of comparison. The rectum is not in much danger in the lateral operation, unless it be distended. In the median, on the other hand, the rectum is in considerable danger. If you perform this operation on the dead body, you will find the back of the bistoury very, I may say uncomfortably, close to the finger in the rectum; and if you place another finger in the wound, you will find them come into very close apposition just anterior to the prostate. In the old Marian operation, the rectum used to be very frequently cut, air and fæces issuing from the wound.

"Fifthly, as to the treatment of the prostate. I think this is very nearly the same in both operations. All are agreed that in the lateral operation but a limited incision should be made in the prostate and neck of the bladder, the opening being dilated with the finger, so as to avoid wounding the capsule of the prostate and the opening up of the pelvic fascia. The difference between an incision that opens the capsule of the prostate, and dilating this structure by the finger, is very great. The great object in lateral lithotomy is not to open up the pelvic fascia, and it is difficult, if not impossible, to tear this with the finger. Take an aponeurosis out of the body; you will find it very difficult to tear; but touch it ever so lightly with the knife, it separates at once. So, in the median operation, you may dilate the prostate to a considerable extent without opening its capsule. I have used the word 'dilate,' but dilatation is an erroneous term. If you look upon the prostate, which is one taken from a dead subject on which I have performed this operation, you will find it to be torn—not simply dilated, but lacerated. As you see in this preparation, there is an actual laceration of the substance of the prostate, but not extending into or through its capsule. A laceration of the substance of the prostate is of no consequence, and only becomes dangerous when it amounts to rupture of the capsule, when it exposes the patient to the fatal accident of extravasation of urine and diffuse inflammation of the pelvic fascia. Now, in the lateral operation, in running the knife down the groove of the staff, you may certainly, unless care be taken, go beyond the limits of the prostate, and thus expose the patient to all these dangers. In the median, this cannot be done, if

the knife be not used after the urethra is opened, the prostate being dilated solely with the finger. So far as this point, then, is concerned, I think that the median may be regarded as safer than the lateral operation, it being *impossible* to open up the pelvic fascia with the finger in the median, whilst they *may* be opened by the knife in the lateral.

"Now for the last and most important part of the operation—the getting the stone out of the bladder. In lithotomy, your work is only half completed when you have entered the bladder; the most important part, that for which the operation is undertaken—the removal of the stone—has yet to be done. Here, I think, the lateral presents a decided and unquestionable superiority; so much so, that it must ever prevent the median becoming *the* operation for stone.

"In performing the median operation you will find three points, or rather planes of obstruction between the surface and the interior of the bladder. The first is occasioned by the transverse muscles of the perinæum, and, perhaps, also by the under portion of the deep perineal fascia. In the lateral operation you cut across this plane, and lay open the ischio-rectal fossa, giving abundance of room for the manipulation of the forceps and the extraction of the stone, along the base of the triangle formed by the rami of the ischium and pubic bones. But in the median you have to extract towards the summit of this space, at the apex of a narrow triangle, having the transverse muscles forming a tense bar along its base, and offering a material obstacle to the introduction of the forceps and the extraction of the stone. The second obstacle lies in the prostate; but as it is easily removable by dilatation, it cannot be considered a serious one.

"The third, the deepest and most important, is situated at the neck of the bladder. In this preparation you find here a narrow, tense ring at the neck of the bladder beyond the prostate, and this bar remains intact in spite of the dilatation and laceration to which the prostate has been subjected. On introducing the finger, you will feel it grasped tightly by this ring. This inner ring of the neck of the bladder cannot be dilated beyond a certain point. I have found by experiments on the dead subject, that it cannot be expanded to a size more than sufficient to extract a calculus of one inch in diameter without laceration or incision. The existence of this ring is the greatest barrier to the extraction of the stone, and its laceration or rupture is well known as one of the most dangerous and fatal accidents in lithotomy. It is in consequence of the obstacle offered by this that the median operation is not available for the extraction of large calculi. Such a calculus as that you saw me remove by the lateral the other day, two inches in diameter, could not have been extracted by the median operation without the employment of a serious, probably fatal, degree of violence, because it could not be got out without laceration or rupture of the ring of the bladder. But it may be said, what is easier, when the finger is in the bladder, than to push a probe-pointed bistoury along it, and cut downwards and outwards, through these structures into the ischio-rectal fossa, if the stone be large? I answer, nothing could be easier or more simple; but what would be the consequence? Why you at once reduce the median to the conditions of the lateral operation. A free incision in the neck of the bladder and prostate

increases the tendency to hæmorrhage, opens up the fascia, and exposes the patient, in fact, to all the dangers of an ill-contrived lateral operation, destroying at once and altogether the principle of the median operation—viz., dilatation, and not incision; and if you do not gain space by incision, but attempt to extract a moderately large stone by dilatation of the parts, you will certainly not succeed, but your dilatation would end in a laceration, not only of the substance of the prostate, which is safe, but of the neck, and, perhaps, the base, of the bladder, which will be fatal.

"In conclusion, then, it appears to me that the median operation, when performed in suitable cases, has the advantages over the lateral of being attended by less risk of hæmorrhage, and with less danger of injury to the pelvic fascia; but that in consequence of the very small size of the opening that can be made in the bladder by it, *provided these advantages are maintained*, it is only applicable to certain classes of exceptional cases, and that it cannot be substituted for lateral lithotomy as the general operation for stone in cases not admitting of lithotrity.

"My opinion as to the particular cases in which the median operation may with propriety be performed is this: In cases of foreign bodies, such as pieces of bougie, bits of tobacco-pipe, &c., being lodged in the bladder, the median is preferable, the body being small and easily extracted; so also for stones not exceeding one inch in diameter. But then, it may be said, calculi of this size can generally be safely subjected to lithotrity. That is true; but, in certain cases, lithotrity is not admissible; so that the median operation becomes limited to cases of small calculi in which lithotrity cannot be practised in consequence of irritability of the bladder, or of the patient being too weak to bear it. If a small calculus be lodged just behind the prostate, in a pouch which occasionally forms at the lower fundus of the bladder, you may come down on it at once by the median incision. In cases also in which lithotrity has been performed, and the patient is unable to expel the fragments, you may perform the median operation, and readily extract the detritus by the scoop, as it lies behind the prostate. But where you have to do with a stone of large size, the median is not, in my opinion, safe; such an amount of traction must be used as will infallibly bruise and lacerate the neck and base of the bladder, and expose the patient to infiltration of urine and deep pelvic inflammation—to all the dangers, in fact, of the old Marian operation; dangers which were so great that more than half the patients subjected to it perished, and which caused it to be abandoned for the lateral.

"Finally, in cases in which the patient is so anæmic that the loss of an additional ounce or two of blood might turn the scale against him, the median is preferable to the lateral, as although it is by no means almost a bloodless operation, as is supposed by some, yet there is less hæmorrhage during the performance, or rather, perhaps, less oozing after its completion, than in the lateral, and there is certainly not the danger of the profuse bleeding that is sometimes seen in that operation. It was for this reason that I performed the median in the last case that was under my care in private, and I am glad to say with success.

"I have said nothing special about the performance of the median operation in children. Under the age of puberty, lateral lithotomy is a very successful operation; certainly the most successful of all the *great* operations in surgery. The median can scarcely be superior to it in this respect; and unless it can be shown to possess decided advantages over the lateral in ease of execution, it does not appear to me to be desirable to abandon an operation of proved safety for one that is still on its trial."

ART. 113.—*On the Propriety of Castration in certain cases of recent Descent of the Testicle.* By Dr. MACDONNELL, Surgeon to St. Patrick's Hospital, Montreal.

(*British American Journal of Medicine*, Jan., 1860.)

Dr. MacDonnell's object in bringing forward the following cases is to draw the attention of the profession to a point of practice as yet but little discussed, viz. the propriety of performing castration in cases other than those of malignant disease of the testicle, and particularly in certain examples of recent descent of that organ. Hitherto it has been laid down by surgical writers, that malignant disease of the testis was the only affection for which this operation should be performed, and even within the last year or two, an eminent authority has asserted that "castration is only justifiable in cases of disease of the testicle, whose justly-suspected malignancy leaves no hope of its restoration to health."* Other writers, as Curling and Erichsen, include strumous disease of the testicle, sinuous ulcers, and fungous degeneration, as requiring sometimes the performance of castration; but it is to Mr. Hamilton, of the Richmond Hospital, Dublin, that we are indebted for directing attention to the particular cases about to be considered. He published an interesting case of non-descent of the testicle, which had given rise to so many attacks of inflammation in the groin, that its removal was proposed to the patient and readily assented to.† The tumour surrounding the testicle was composed of fluid, the testicle itself was ill developed, and the epididymis and vas deferens contained no true seminal fluid, and exhibited other abnormal features. It was in fact a useless organ. Previous to becoming acquainted with Mr. Hamilton's views, Dr. MacDonnell had met with two cases in which the testicles, having recently descended, had caused great annoyance to the patients, from the frequency and severity of the attacks of inflammation they occasioned. The case now related, and those mentioned by other writers, present in addition some anatomical features, which have escaped the attention of surgeons and physiologists, and which, in the author's opinion, should reconcile the practical surgeon to the performance of the operation, and induce him to resort to it with less hesitation than if he were about to remove a healthy and normal gland. It is with a view to attracting attention to these points that the following case is brought forward.

* Skey's 'Operative Surgery,' p. 610.

† 'Dublin Quarterly Journal of Medicine.'

CASE.—A young man, æt. 22, was admitted into St. Patrick's Hospital, under my care, having a large tumour occupying the left side of the scrotum, which he stated was the left testicle that had recently descended, and had become swollen, and so painful, that he earnestly requested me to remove it. It appeared that until about a year before his admission, he remarked that the scrotum contained but one testicle, which was situated on the right side, and that on one occasion, whilst lifting a heavy weight, he felt something give way in the left groin, and a small, hard substance escaped from the abdomen, and from that time he had suffered from frequent attacks of pains and swelling in the groin, and latterly, down in the scrotum. He had suffered so much from these attacks that he was unable to work, and he requested me to remove the testicle that he might get rid of a substance which not only caused much distress, but which also prevented him earning his livelihood. The tumour was of the usual shape of an inflamed testicle, and about the size of a goose egg; it was not very painful except at the back part; the scrotum was tense and shining; the surface of the tumour smooth and even; its weight considerable, and in no part was it transparent. The cord was not thickened, it was not painful to the touch, but he suffered a dragging sensation and pain running along the cord in the direction of the loins. The pain in the tumour was constant, but notwithstanding his frequent appeals to have castration performed, I did not deem it justifiable till milder measures had been employed, and accordingly the usual treatment was resorted to, but without any effect except that of rendering him weaker, and less capable of bearing pain. This condition, with a threatening appearance of gangrene in the scrotum, near the raphe, and excessive pain in the right testicle, caused by the weight of the diseased one lying upon it (for he could not lie on the left side), and the ill success of the treatment first employed, induced me to comply with his request, and the operation was performed in the presence of my colleagues, Drs. David and Howard. I had explained to these gentlemen that I should seek for, and tie, the spermatic artery before dividing the cord, as I considered it the best practice, and because I was anxious to ascertain the facility of reaching the artery and tying it, to enable me to form an opinion of the advantage of doing so, as a cure for varicocele, a plan of treatment recommended by some American surgeons, and practised with success by Dr. H. Nelson, of this city. To our surprise we could not find the artery, and on division of the cord, there was no hæmorrhage, and no trace of a spermatic artery to be found on either end of the cord, and no ligatures were required. The tumour consisted of non-organised, plastic material, breaking off in masses like putty, without any trace of a blood-vessel, and of a uniform buff colour, filling up and distending the tunica vaginalis. At the back part of this mass was the testicle, little more than half the natural size, with a small epididymis and vas deferens. It did not appear to be inflamed itself, but to have caused inflammation in surrounding parts, *as a foreign body*. The wound was completely healed at the end of three weeks.

"It is foreign to my purpose," says Dr. MacDonnell, "to inquire whether the non-descent of the testicle in the case I have given is to be attributed to the arrest of development of the spermatic artery, or if the non-development of the spermatic artery is a consequence of the retention of the testicle; the important fact for the surgeon to know is, that whereas ample provision for the arterial supply of the healthy testicle has been made, by giving it a special artery, remarkable for its origin, size, and course, and that it also obtains for itself and its envelopes nourishment from the spermatic

branches of the epigastric and the deferential branches of the superior vesicle, yet, in the cases alluded to, there was an absence of these vessels, and that in a case mentioned by Broca, and quoted by Curling, where the left testicle was within the abdomen, about an inch above the inguinal ring, it was 'small, flattened, resembling a haricot bean,' and 'the spermatic artery was as fine as a thread.* In Mr. Hamilton's case, it is distinctly stated that there was *no hæmorrhage, and no vessels to be tied*, and the same remark is made by Mr. Spry, surgeon to the Royal Cornwall Infirmary, who removed a recently descended testicle, that had become the seat of encephaloid disease. He also observes, 'the hæmorrhage attending the operation was so slight, that no vessels required to be ligatured.† These defects in the arterial supply, taken in connection with the arrests of development of other structures, intimately connected with the testicle, as the epididymis, vas deferens, and seminal tubes, the atrophied and misshapen form of the organ itself, and the absence of spermatozoa in all those cases in which those bodies were sought for, clearly show that the organ is in most cases a useless and withered gland, incapable of performing its functions, and acting, when it suddenly leaves its original position, *as a foreign body*, causing excessive pain and inconvenience from the inflammation it excites in neighbouring parts, rather than from the inflammation of its own structure; for in the case of Mr. Hamilton and in mine, the testicle itself was free from disease, though it had caused effusion of serum in two of them, and of badly formed plastic matter in the third. We have no reason, then, to hesitate about removing these bodies under the circumstances I have mentioned, whenever they give rise to frequent and severe attacks of inflammation. It would appear that, in some of these cases, the patient seems conscious of the organic imperfection; for we can hardly explain, on any other supposition, the readiness with which a patient submits to castration, and even urges its performance on his medical adviser."

ART. 114.—*A new Urethrotome for the treatment of obstinate stricture of the urethra.* By Mr. MARSHALL, Surgeon to University College Hospital.

(*Lancet*, April 14, 1860.)

This instrument involves a new principle of action. It consists, as the subjoined woodcut will show, of a solid steel bougie, of the size No. 10 in the stem, marked 1, of the size No. 2 for three inches at its curved end (2), and having an intermediate cutting portion (3) about one inch and a half in length. (The figure is two thirds the actual size).

In the construction of this part of the instrument its peculiarity consists. It is here flattened on its upper and under surfaces, so as to form a thin wedge, with two lateral slanting edges, and having a circumference gradually increasing from No. 2 to rather more than

* Curling, 'On the Testis,' Second American Edition, p. 72.

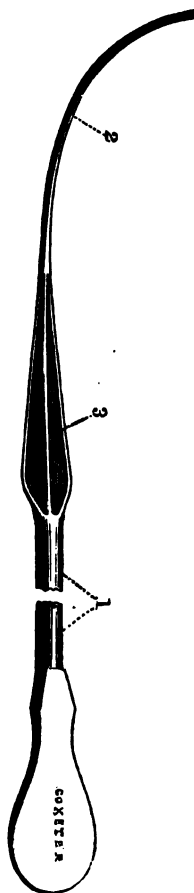
† *Lancet*, for 22d January, 1859.

No. 10 size. Its upper and under surfaces are neither plane nor convex, but present a central rib, with two lateral hollows, so as to allow of but little hold upon these surfaces when the instrument is in use, and yet maintain its stiffness and its general wedge-like form. At the same time the grooves also serve to contain some unctuous substance by which to lubricate it.

The lateral borders of this part of the instrument are ground to a smooth, stiff, blunt edge, something like that of a sword,—not sharp enough to cut the finger or the lip, or even the tongue, when pretty firmly drawn over those parts, but readily severing any yielding though tough organic structure, such as leather, catgut, or even string, drawn over it with a sufficiently firm, sliding movement.

In using this instrument, its smaller end is passed through the stricture to be divided; and if this be carefully done, provided the orifice of the urethra has been previously dilated, if unusually narrow, no sort of cutting or even scratching of the urethra in front of the stricture takes place. The point of the instrument having been ascertained to be in the bladder by the freedom with which it can be moved about, the operator, then standing on the right side of the patient (who is supposed to be recumbent), and holding the handle of the instrument in his right hand, and the penis well drawn forward with his left hand, is enabled, as the author has found in practice, to pass in the instrument through the stricture, in a few seconds, with a surprisingly small amount of force. The instrument acts smoothly, without catch or jerk, and with a sensation to the operator as if it were penetrating something as soft as cheese.

The operation can, of course, be performed with or without chloroform, but to a patient who had no chloroform the slight pain caused by cutting was less inconvenient than that produced by previous attempts at dilatation. In the case alluded to, the man—a retired Indian soldier, fifty-four years of age, and a patient in University College Hospital—had suffered many years from a narrow organic stricture, accompanied with albuminuria. With some patience, after several weeks, the stricture was dilated so as just to admit No. 3. In this condition, on the 24th of February, it was divided by the operation above described, when only a few drops of blood escaped from the urethra. A No. 9 elastic catheter was then



passed with the greatest ease. Six hours later, the catheter was removed. From that time the patient has passed his urine in a full stream. On the day after the operation, a No. 10, being tried, did not pass, owing, probably, to swelling of the sides of the canal; but on the seventh day, Nos. 8, 9, and 10, on the eleventh day, Nos. 9, 10, and 11, and on the fifteenth day, Nos. 10 and 11, slipped into the bladder at once, and were withdrawn without any grasping by the walls of the urethra. Neither shivering nor any other constitutional disturbance followed the operation, and the health of the patient, as might be anticipated, has improved.

The instrument now devised is evidently not a mere wedge-shaped dilator; it is also wholly inefficient if its edges are left rounded or non-incisive. Neither does it act in the same manner as the fine-bladed sharp-edged urethrotomes now employed, whether these cut from behind forwards or from before backwards; for whilst, beginning from the internal surface of the strictured part, it divides all the hard, resisting structure, it will merely stretch any tissue beyond, which is soft and elastic enough to yield. At all events, it would seem far less likely, when deliberately used, to cut through the fibrous tissue of the corpus spongiosum urethræ than the thin, sharp blades of existing urethrotomes. The very small amount of hæmorrhage following its employment favours such an opinion; and if the fact really turn out to be so, there will necessarily be less risk of urinary infiltration and abscess.

This new urethrotome may, of course, be made of different sizes; but a smaller size at the point than No. 2 might be less safe for ordinary purposes, and a smaller stem than No. 10 is not desirable, unless for a traumatic stricture in a boy's urethra, or in a case in which that canal is unusually narrow. Mr. Marshall has had a *straight* one made for the division of strictures in the fore part of the urethra, and also a curved *hollow* one, which acts as a catheter, and thus will determine in cases of peculiar difficulty the fact of the end of the instrument being really in the bladder, and will enable that organ to be injected with water, so as to remove its anterior wall away from the point of the instrument, and subsequently furnish evidence of the elastic catheter having reached its destination.

Finally, it is obvious that a like principle may be applied to instruments for dividing indurated strictures in other canals. It is also evident that it may be adapted to blades capable of being concealed or projected, or to a blade sliding over a smaller guide which has been previously passed.

ART. 115.—*On the treatment of Gonorrhœa and Gleet without Copaiba.*
By MR. WEDDON COOKE, Surgeon to the Royal Free Hospital.

(*Lancet*, Jan. 26, 1860.)

The treatment which has proved most successful in the authors' experience (an experience extending in fifteen years to upwards of 6000 cases) is the chemical treatment by the alkaline carbonates given with a view of neutralizing the acid in the urine. Thus one great source

of irritation was removed from the inflamed urethra, and the subsidence of the inflammation, which nature would effect, was allowed to take place. As auxiliaries, especially when there is œdema of the prepuce, lead lotions, and elevation of the penis against the abdomen, were commended. The inflammation having subsided, and a muco-purulent discharge being left, the author had found, after giving trial to all the injections which have been at any time in vogue, that the chloride of zinc, introduced into this branch of practice by Mr. Lloyd, of St. Bartholomew's, was the most efficacious of any in curing the disease, and that with less discomfort and in a much shorter time than by any other means. Since employing this treatment he had had little, if any, orchitis amongst his patients. The strength of the injection he most commonly employed was two grains to the ounce, but in some instances one grain to the ounce was sufficient. Whilst advocating this treatment in persons of healthy constitution, it was necessary to completely change it in others. In the strumous, in the dyspeptic, in those of dissipated habits, and where the diseased person is an old offender, the alkaline carbonates are not called for, because either the urine is not acid or the inflammation does not run high. In such cases the tincture of iron, or sulphuric acid and bark, or gentian, or calumba, may be advantageously employed from the commencement; and the chloride of zinc injection in these cases is also of the utmost value in rapidly overcoming the disease.

Respecting diet, the author considered that after the subsidence of the inflammatory symptoms scarcely any restriction need be enforced, and that beer or wine in moderate quantities may be advantageously used by those who are accustomed to these beverages. He had found long-established cases of gleet yield readily to the chloride of zinc injection, accompanied with tonic treatment and generous living.

(C) CONCERNING THE LOWER EXTREMITY.

ART. 116. *Elephantiasis of the leg treated by ligature of the Femoral artery.* By Dr. T. L. OGIER.

(*Charleston Med. Journ. and Rev.*, March, 1860.)

CASE.—On the 20th of October, I was consulted in a case of elephantiasis of the leg and foot. The parts had attained an enormous size, and had existed five years. The subject was a negro man, 26 years of age, of extremely well developed muscular system, and in good health. The size of his leg and foot, and the dull pain experienced, when walking, incapacitated him entirely from any kind of labour, and made him a burthen to himself; so much so that he said it would be a relief to him if I would amputate the leg. As soon as I examined the case, I determined that it was a suitable one upon which to try Dr. Carnochan's method of cure—viz., tying the femoral artery. I told him that I had never found any treatment of any permanent service in his disease, but that cases had been cured by taking up the femoral artery, and that I considered his case a fit one for the operation, and if he and his owner were willing, I would perform the operation, as it was the only thing to be done for him. At the same time, I explained to them both, the gravity of the operation, and that it might result in his death. Without any hesitation, the

patient assented, and urged me to do anything, no matter at what risk, so that there was a chance of having his leg cured. His master also consented, and the operation was at once decided upon. I gave him the next day a dose of calomel, followed in eight or ten hours by a dose of castor-oil, thus purging him out well, so that after the artery was tied, he might be disturbed as little as possible.

On the 23d of October at twelve o'clock, assisted by Drs. Miles and Ravenel, I cut down at the lowest point of Scarpa's triangle, and tied the femoral artery. No difficulty was experienced, and no hæmorrhage occurred at the time. The saphena vein was not exposed in the incision, and therefore offered no obstruction to the taking up of the artery. I applied a single ligature made of hemp, cut off one end, and left the other hanging out of the wound, the end being secured to the thigh by a piece of adhesive plaster, to prevent its being disturbed. The wound was then closed by one suture, and adhesive straps, and a light compress and bandage applied over these to keep them from being displaced. Bottles of warm water were put around the leg and foot, which had now become cold to the touch, and felt quite numb to the patient. The leg was put in the easiest position, slightly flexed, and sixty drops of laudanum given, with directions to the patient to keep perfectly quiet, and try to sleep. At six o'clock p.m. he had slept, and then felt comfortable. His pulse was 100 per minute but soft. At eight o'clock next day, he expressed himself as feeling very well; but his skin was hot, and his pulse hard, and beating 160 to the minute. I directed six drops of tinct. verat. viride to be given every hour in a little water, until the pulse was reduced. At six o'clock p.m. the pulse was 80, and the verat. viride ordered every three hours. The next morning the pulse was 59, and the medicine was discontinued, the patient feeling quite cheerful and comfortable. The bandage and plaster were removed on the fourth day. The wound was found to be suppurating freely. It was dressed, and the patient directed to take a little chicken broth. As the wound was suppurating freely, it was now dressed every day, and on the twelfth day the ligature came away, no hæmorrhage following it. The wound had healed in its upper two thirds, the lower third was still open, and continued to discharge healthy pus, but in much smaller quantity.

The leg and foot began to decrease in size from the second day after the operation, and was now not more than half the size it was before the artery was tied. All went on well, until the morning of the fifteenth day, when the nurse sent me a hurried message to say that the man was bleeding freely from the wound, and that he had temporarily arrested it, by compressing tightly the wound, with his hand and a compress. Upon visiting him, I found quite a pool of blood around the thigh. It did not continue to flow, as the nurse still kept the compress firmly against the wound. Upon removing his hand, the blood came out in a stream about the size of a quill, and with indistinct pulsations. I was in doubt whether to cut down, and take up the external iliac, or for the present merely to trust to a compress. I determined upon the latter, and applied a firm compress the whole length of the wound, and confined it with a bandage. It appeared to me, that if the hæmorrhage was caused by improper adhesion or ulceration of the orifice of the upper or cardiac portion of the artery, that it could not so easily have been restrained, and that it would have gushed out in violent and distinct pulsations; but that if the bleeding came from the lower or distal end of the artery, the pulsations would be indistinct, and the flow more easily restrained. Accordingly, when after several hours, some oozing had taken place, I cautiously removed the compress and bandage. I found that the flow of blood was entirely arrested when I made pressure on the artery some three or four inches below

the wound; but when the pressure was made on the artery above the wound the flow was checked, but not entirely arrested. This showed plainly that the difficulty was in the lower end of the artery, and I accordingly applied my compresses there, and continued them for twelve days, in which time the external wound was firmly healed. They were then discontinued, and no other untoward circumstance occurred. It is now three months since the operation; the leg and foot have subsided to very nearly the natural size. The patient walks about, and feels no pain or uneasiness. He wears an elastic stocking, and will continue to wear it for some time, or as long as there is any swelling of the foot.

Dr. Carnochan, of New York, was the first surgeon who proposed to cure elephantiasis by ligature of the artery, and has published four cases in which he has practised it with success. Since the publication of Dr. Carnochan's first case, Professor Erichsen of London reports a case of elephantiasis of the foot, treated upon the same principle, by tying the anterior tibial artery in the middle of the leg. The result is said to have been perfectly satisfactory, and Professor Erichsen writes that the operation was performed in consequence of the reported success of Dr. Carnochan's first case. If our case is permanently cured, it will be the fifth on record effected by ligature of the femoral artery. The swelling has all nearly subsided now, but at least a year must elapse before the disease can be said to be permanently eradicated. In the course of the treatment of this case of ligature of the femoral artery, there were two points, which I think particularly interesting. The first was the time at which the secondary hæmorrhage occurred. When we tie an artery, if secondary hæmorrhage does not take place on the third, fourth, or fifth day, we look anxiously for the coming away of the ligature, as that is the time it is apt to happen. But if this comes away of itself, and no hæmorrhage follows, we feel easy about the case, and consider that, with ordinary care, all danger is over. I felt so in this case, when, three days after the ligature was thrown off, while the patient was asleep, the hæmorrhage occurred, and, but for the timely assistance of the nurse, he would have died. I presume the hæmorrhage was caused by slight ulceration of the lower end of the artery, beyond the point where the ligature was applied, and that the pressure of the compress caused the edges of the ulcerated vessel to adhere, and thus arrested permanently the bleeding. The second point, was the good effect produced by the doses of the *veratrum viride*. The effect of this medicine, in reducing the pulse in pneumonia, carditis, and many febrile diseases, is now well known, and the benefit of it in these diseases acknowledged. In the ligature of arteries, the first thing desirable is the formation of a clot in the end of the artery. There is no doubt that the fewer the pulsations of the artery, the easier is the clot formed. With every pulsation this is more or less disturbed, so that if we can easily and with safety reduce a pulse of 160 or 170 to 50 per minute, we put the patient undoubtedly in a more favorable condition for the formation of the clot and the obliteration of the artery. Would it not, then, in all cases of ligature of the large arteries, be well to reduce the pulse for the first three or four days by the *veratrum viride*?

ART. 117.—*A Case of Simultaneous Lateral Dislocation of both Knees*
By J. W. HAMILTON, Professor of Surgery in the Starling
Medical College.

(*Ohio Med. and Surg. Journal*, Jan., 1880; *North Amer. Med.-Chir. Rev.*, March, 1880)

On account of the large size and strong ligamentous connections of the knee-joint, it is comparatively rare that the surgeon meets with a luxation of this articulation; and when it does take place laterally whether externally or internally, the injury is most frequently incomplete. The case of Dr. Hamilton is, therefore, especially interesting from the fact that both tibiae were completely dislocated laterally and externally from the condyles of the thigh bones. The accident occurred to a German, forty-four years of age, of medium muscular development, who was bruised by the falling of a large pile of sawdust. In addition to the dislocations, the right fibula was fractured just below its head, and the ligaments of the joints were so completely severed that the legs could be made to make almost any angle with the thighs. But slight manipulation was required to reduce the luxations, and the integuments were unbroken.

The treatment consisted in keeping the limbs in an extended position, with extensive lateral support by means of folded comforters and the continuous application of cold water, opium being administered internally. At the end of ten days active inflammatory symptoms having disappeared, the apparatus and cold water were discontinued and slight, passive motion, with the external application of iodine substituted.

On the forty-fifth day, the motion of the knee-joints was perfectly free, but the right knee could be partially dislocated by exerting slight lateral pressure. The patient's limbs were bandaged and the knees supported with pasteboard splints, and he was allowed to walk about on crutches. A complete cure is eventually expected.

PART III.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 118—*On Morning Sickness; its Significance as a Symptom.* By Dr. INMAN.

(*British Med. Jour.*, March 24, 1860.)

WHY are pregnant women sick? Why does the sickness occur in the morning? Why does it occur during the early months more frequently than the later? Why does not morning sickness attend a distended bladder, bowels distended by flatus, ovarian dropsy, or fibrous or other tumours of the uterus, as often as it attends pregnancy? Does morning sickness attend any other complaints? if so, what have these in common with pregnancy? What is the proximate cause? is it to be sought in the stomach itself, the brain, the uterus, or all combined?

In answering these questions, we light upon an interesting series of facts. All pregnant women do not have the symptom in question; many escape it entirely; others have it at one time and not at another; some of those who escape it have flatulence and other signs of dyspepsia; others, simple faintness. If we dive still deeper, we find it common amongst town-bred women, and rare amongst the healthiest of the rural population. We find that a lady who suffers from it in a town is comfortable the day after she resides in the country, and is ill again the day after her return; and that, for such an one, a prolonged residence in a pure air prevents morning sickness altogether. It is clear, then, that women are not sick simply because they are in the family way; there is something required in addition to that, to produce the vomiting.

We next note that the sickness is most common in the morning; but it is not generally present so long as the woman is lying down; nor, if the recumbent posture is continued, will it come on. But no sooner is the erect posture assumed, than nausea comes on, and increases until vomiting follows.

We may next remark, as a matter of fact, that children and delicate people generally have anorexia in the morning, even if they have not vomiting; and sometimes they are totally unable to eat anything at breakfast, from a feeling of faintness or sickness. This is a tole-

rably sure indication of deficiency of digestive power in the stomach and in the body generally, and is best met by the use of some mild stomachic and fluid food.

When we inquire how much the condition of the uterus influences the vomiting, we find that the sickness is not produced by simple enlargement of the organ; for it is not a common sign during the gradual distension that takes place from accumulation of the catamenia in cases of imperforate hymen; nor is it from pressure in the pelvis, direct or indirect, for the symptom is generally absent from first to last in ovarian dropsy; nor is the sickness produced by growths within the cavity of the uterus, for it is not a common sign in cases of uterine polypus, &c.

We cannot lay much stress upon these facts; yet we may remark, that morning sickness accompanies the formation of moles, &c., which are supposed to be the result of an act of generation; and that it also accompanies *extra uterine* pregnancies, as far as we can judge from the few cases recorded, quite in the same proportion as the *intra uterine*.

In the causation, then, of morning sickness, we infer that "uterine sympathy" does not hold so prominent a place as the formation of a new being. But neither the one nor the other hold sufficiently prominent a place to give to them the most important rank, inasmuch as neither one nor other produces the sickness, unless other conditions are present.

We ask, next, what these are? As the symptom in question does not occur in perfectly healthy and strong women, we infer that its occurrence depends upon some deterioration of vital power. As deterioration of vital power involves, to a greater or less extent, deterioration in all organs of the body, we infer that, in the cases in question, there is deficiency of vital power in the brain, and in the stomach.

If this inference be true, we shall find that the best remedies for morning sickness will be those which improve the condition of the patient generally, those which improve the steadiness of circulation in the brain, those which improve the tone of the stomach, those which deaden the sensibility of the organ which has been preternaturally increased by debility.

Of the influence of change of air upon morning sickness we have already spoken. If this cannot be adopted, we must act upon the principle, "Diminish the daily work gone through as far as possible, and increase the power to do it."

The following case is a good illustration of the value of this principle.

CASE.—John J—, æt. 30, a strictly temperate man, manager of a large spirit retail, came to me five weeks ago, complaining of severe infra-mammary pain on the left side, which, he said, he could cover with his thumb. I found, on questioning him, that he suffered also in other parts of the trunk from myalgic pains at night, and that for some weeks past he had suffered from cough, and was beginning to lose flesh. I could detect, however, nothing wrong in the lungs. His appetite and digestion were good, and the bowels regular. *Every morning, however, for the past nine months he had*

had sickness and vomiting. This came on generally *about five minutes after he got up*; he merely passed some flatus and stringy mucus. He had no signs, so far as I could discover, of ulcer of the stomach. Considering that the man was simply suffering from debility and overwork, I recommended a glass of milk, with some rum in it, to be taken before getting up. Tincture of iron, with cod oil, three times a day. Ale or porter at dinner, a good supper about an hour before bedtime, and as much rest in the horizontal position, during the day, as could be attained. He adopted this plan, and had no return of the sickness for four weeks. At that time he one day felt so much better, so thoroughly well, as he thought, that he not only returned to his ordinary work, but exceeded it; he felt, he said, at bedtime that he had done too much. The next day the morning sickness came on as usual, and the curd of the milk he had taken was vomited in a long lump. He at once took the hint, kept himself very quiet the whole of that day, and has been careful of himself ever since, and the morning sickness has not returned.

A similar plan must be adopted for pregnant women. They should take something ere they get up, and allow sufficient time for this to have its influence on the stomach in dispelling flatus, on the circulation generally, and on the heart's power, enabling the latter to keep up the necessary volume of blood in the brain when the erect posture is assumed. I believe the best thing which can be adopted is a tumblerful of milk with a tablespoonful of brandy or rum in it; it is food and stimulant combined. If this be objected to, hot coffee, cocoa, or tea will be of service, though all are too poor in quality to effect all we wish. Where the sickness is very distressing, champagne (or sparkling gooseberry) answers better than anything else. Throughout the day, everything in the way of *work* must be carefully noted, and its effects marked; so that the patient may ascertain whether or not it is beyond her strength to do it. If the strength permit, exercise in the open air is useful up to a certain point, beyond that it fatigues, and makes the sickness worse. In bad cases, rest in bed is absolutely necessary for a time. Such tonics as steel, quina, glycerine, and alcohol in medicinal doses, are each useful. Opium, from its influence on the brain and stomach, is specially advantageous. Of the special remedies I need scarcely speak, they are more or less familiar to all.

Hence we see that a consideration of so common a symptom as that we have referred to brings us to that most recondite of all subjects—vital power. It leads us to speculate upon the condition of such power in a *woman* who is beginning to impart some of her life to a new being. We cannot speculate upon this without turning our thoughts to her partner, and as we do so memory heaps up a vast number of instances, amongst the lower animals, in which the act of generation has been followed at once by the death of the male, as it is subsequently by death in the female. It is true that in the higher animals such occurrences are rare, yet the author has met with no less than three cases, in man, where immediate death followed connexion. Once after great loss of blood; another during a transient improvement in phthisis; in a third the man was weak, from diabetes, and got up from his marriage bed only to return to it to die before evening. But however interesting these speculations may be, it will be unprofitable to carry them farther.

ART. 119.—*On the normal Hypertrophy of the Heart during Pregnancy.* By M. LARCHER.

(*Archiv. Gén. de Méd.*, t. xiii, p. 291—306; *Med. Times and Gaz.*, Dec. 3, 1859.)

The point the author here wishes to bring under the notice of the profession, he has had ample means of investigating at the *Paris Maternité*, for his investigations have been extended to 130 pregnant women, the great bulk of whom succumbed to puerperal fever—no lesion having preceded or given rise to the condition of the heart observed in them. The conclusion he comes to is, that the *heart is normally in a state of hypertrophy during gestation*. The walls of the left ventricle become increased by at least from a fourth to a third in thickness, its texture being also more firm and its colour more bright—the right ventricle and the auricles retaining their normal thickness. These observations, made by M. Larcher, date back some thirty years, and have been confirmed by subsequent ones, made with great exactitude, by M. Ducrest, upon 100 other women: but why this paper has been so long in being published no explanation is given.

Within certain limits this condition of things may co-exist with the maintenance of health; but it none the less may be taken to express a predisposition to congestions and hæmorrhages. If, as the general rule, the hypertrophy gradually disappears after parturition, it may be otherwise in exceptional instances, especially where the recurrence of pregnancy has been frequent, and with short intervals. Is this not a cause of the varied lesions of the circulatory apparatus so commonly met with in women who have borne many children, either at too premature an epoch, at too brief intervals, or during an unfavorable condition of health? There is every reason, too, to believe that the bronchitis, which is so common during pregnancy, derives much of its character of persistency from this condition of the heart. Again, may we not attribute to this the greater danger of pneumonia when developed in pregnant women, and the frequency with which abortion then occurs? The various forms of hæmorrhage met with in pregnancy, as epistaxis, hæmoptysis, metrorrhagia, and apoplexy, are likewise predisposed to by this hypertrophy, normal though it be. Although pregnancy may, in the majority of cases, suspend or render slower the progress of pulmonary consumption, the progress of this affection becomes accelerated after delivery, and the still hypertrophied heart increases the perturbation of the respiratory apparatus.

ART. 120.—*The diagnosis of the Sex of the Fœtus by means of Auscultation.* By Dr. FRANKENHAUSER.

(*Monatsch. f. Geburtsh.*, t. xiv, p. 168, 1860.)

The mean frequency of the beats of the fœtal heart, as ascertained by auscultation, are (so says Dr. Frankenhauser) more frequent in female than in male fœtuses. The mean frequency of twenty-eight female fœtuses is 144 in the minute—the lowest figure 138; the mean

frequency of twenty-two male fetuses is 120—the lowest figure 132. By applying this rule, Dr. Frankenhauser has been frequently able to say before birth, and to say correctly, what was the sex of the child; indeed, he leaves us to imply that the rule never failed him, provided it was put to the test before the pains of labour had deranged, as they may be well supposed to do, the natural rate of frequency of the fetal heart.

Other observations are needed before a decision can be come to as to the real value of this new application of the art of auscultation.

ART. 121.—*On Retroversion of the Womb in Pregnancy.*

By Dr. BARNES.

(*Lancet*, Dec. 3, 1859.)

Retroversion of the gravid womb is a displacement by which the organ is dislocated from its normal erect, or slightly forward inclining attitude, and thrown back, revolving on its transverse axis, so that the fundus becomes impacted under the projecting promontory of the sacrum. In most cases the *cervix* and *os* are carried upward and forward behind the symphysis. There is more or less of retroflexion accompanying this affection. There are two distinct forms; in one it is produced gradually, in the other suddenly. Retroversion is exceedingly rare in women pregnant for the first time. In the gradual forms there exists some degree of prolapsus at the time of conception and afterwards. The uterus being thus low in the pelvis, grows in that situation, and on reaching a certain size, instead of rising out of the cavity, it projects itself against the promontory. Continuing to enlarge, it is gradually turned upon its transverse axis. When it fills the pelvis, the symptoms of pressure are developed. The obstruction of the bladder, formerly slight, is now constant. In the sudden form, it is produced in a different manner, although here too there must exist a predisposing condition. Under powerful straining efforts, the pressure of the abdominal muscles is thrown upon the *fundus uteri*, which is thus driven back under the promontory. Or, a woman encounters a violent concussion, and it is found that the womb has been thrown down within the pelvis.

The prominent symptoms are the great desire to empty the bladder; hence arise straining, tenesmus, and pains simulating those of labour. To these may be added uræmia, if the bladder is not relieved. The diagnosis may be made by examination, externally, of the abdomen, per vaginam, per rectum, and per vesicam. When the tip of the finger enters the vagina, it is arrested by a solid globular body, only permitting the finger to pass up with difficulty between it and the symphysis, where the *os uteri* will be found close behind, and above the level of the *crista pubis*. Per rectum, a large, solid, globular tumour will be found in the hollow of the sacrum, compressing the rectum. The examination per vesicam must be made with a male flexible catheter, directed well forward. When the bladder is empty, the abdominal tumour, which may at first have been mistaken for a gravid uterus or dropsy, has disappeared. The abdominal walls

become flaccid, admit of free examination, and, on feeling above the pubes for the womb, that organ is not found. Hence the conclusion is that the tumour felt per vaginam, filling the pelvis, is the gravid uterus.

The treatment must vary according to the state of the case. The bladder must be emptied three or four times in the twenty-four hours. Unload the rectum by warm water enemata. Then, by making the woman lie in the prone position, with the pelvis raised, frequently spontaneous reposition will occur, and the cure be effected.

If more serious, manipulation must be employed. Never attempt to hook down the *cervix* by pressing the finger on the *os*. Introduce the whole hand into the vagina, doubling the fist, and apply the flat surface made by the first phalanges to the fundus, and thus make pressure. The fingers alone, thus applied, would be extremely liable to cause detachment of the placenta, should it lie upon that wall of the womb thus pressed and indented. At the same time, the patient should be placed on her elbows and knees to obtain the aid of gravitation. Reasonable force *only* must be employed. If the attempt fails, give an opiate, and let her rest. Next time employ chloroform, and place the patient on her left side, in the usual obstetric position. Should reduction still be impracticable, and the symptoms be urgent, lessen the bulk of the distending body, by producing abortion. The liquor amnii may be evacuated by a catheter, or a douche bath applied. Finally, puncture the walls of the uterus. If this is attempted by the vagina, the trocar must be directed perpendicularly to the uterine walls, hence point it obliquely backward to the hollow of the sacrum. After the evacuation of the liquor amnii, as the danger is less urgent, the attempts to reduce the uterus may be suspended for awhile. Nature will expel the contents of the womb, and by involution its bulk will be lessened, and there will be a spontaneous termination of the difficulty. Opium and chloroform are the most useful means to relieve pain and spasms. Stimulants and nourishment must be given to support the strength, and uræmic poisoning may be met by nitro-muriatic acid and ether.

ART. 122.—*On turning by External Manipulation.*

By D. E. NOEGGERATH.

(*New York Journ. of Med.*, Nov., 1859.)

After a most able sketch of the operation from the oldest times to the present day, Dr. Noeggerath proceeds to set forth the advantages, the indications and contra-indications, and the mode of performing the operation.

"The great advantage and intrinsic value of turning by external manipulation, are," he says, "the safety for mother and child. It is void of that fear, and of that suffering which is connected with most of the other operations. The nearest point of comparison is turning, be it podalic or cephalic, by internal manipulations. In every instance where the hand of the operator is brought in contact with the inner surface of the womb, there is always a certain amount of suffering,

varying according to the particular features, proper to every individual case, according to the sensibility of the womb, according to the skill and state of refinement of the accoucheur. It might be objected that under careful and experienced management, chloroform does away with all that might have been formerly urged to the disadvantage of any operation. I, myself, am in the habit of using chloroform extensively, and more particularly, in operative midwifery cases. But who is the man who would hesitate in the choice between two modes of operating, of which the one is innocuous, on account of the chloroform, and the other equally harmless without chloroform? The operation has for its principal object to avoid turning by the feet, thus bringing the child in the safest presentation imaginable. I think all of my readers are enlightened enough to understand, without any further explanation, the full weight of this advantage. Before speaking of the indications, let me say a few words with regard to the manner in which these manipulations do influence the position of the fetus in utero. While the first advocates of this proceeding imagined that the direct motion imparted to the fetal parts by outside pressure, was the only way in which their position was influenced, it was left to the ingenuousness of Drs. Joerg, Busch and Kilian to call our attention to the *dynamic* effect of these manipulations upon the uterus. There is no doubt a great deal of truth in this belief, if we bear in mind, that the largest number of transverse or oblique presentations is not only accompanied, but even caused by deformities of the usually ovoid shape of the womb, and if they should be corrected, the situation of the fetus would also come nearer to a more natural condition; then we can easily imagine why pressure exerted upon the womb from outside will be apt to correct malpositions of the fetus. But it is our conviction that neither the dynamical nor the mechanical effect do either of them alone effect the change; it is a combination of both that does the work.

"The operation is indicated in all those cases where the child presents in an oblique or transverse position, in such a way that the head is situated not far from the pelvic entrance, provided that there is nothing in the case which actually demands or may possibly after a while demand an actual interference for hastening the process of labour. For example, in all cases of neck and shoulder presentations, in all presentations of the trunk where the head is situated nearer to the pelvis than to the chest, we may try to correct the position of the child by external manipulations. In proposing this general indication, we follow the advice of all reliable authors. If we have not comprised in it Dr. Mattei's proposition, to perform the operation in cases of breech presentation, this was not done from a want of trust in his assertions, or in the reliability of the cases published by this ingenuous accoucheur, but rather because we think that breech presentations under ordinary circumstances, and skilfully managed, are just as safe for the life of the child as those of the head. But Mattei's proposition is of undeniable value in cases of pelves contracted to such a degree as to demand craniotomy; even if the head comes last—of pelves which would not admit of the execution of Simpson's well-known proposition. The caution not to try version by external

manipulation, in cases where we want a prompt delivery of the child by all means, is derived from the fact that such trials do sometimes prove unsuccessful, so at least, unless continued for a long while. It would be wrong, for instance, to try these manipulations in a case of hæmorrhage or convulsions, because of the loss of valuable time, which ought to have been applied in the performance of a prompter mode of delivery; and even should we succeed in a similar instance to bring the head down to the upper strait, this would afterwards prove a bar to the easy performance of delivery by the feet, if required by insufficiency of pains, which failed to firmly engage the head in the pelvic brim, as a preparatory step for delivery with the forceps.

"The correct diagnosis of the situation of the fœtus in utero by external examination, is the preparatory step and an intrinsic part of the operation. Before attempting to perform it, the operator must have in every single case a distinct idea of the presentation of the child in his mind, to the confirmation of which repeated inspection, palpation and auscultation must be called to aid; internal examination will, in the great majority of cases, yield only negative results. This done, the woman is ordered to lie on her back, while the physician takes his position on the side of the bed opposite that where the head is located. Suppose the head is felt in the *left iliac fossa*, the operator places his *right hand* upon the cranial protuberance, while his left hand is placed on that portion of the uterus where the nates are situated. Now, gentle frictions are made upon the points indicated, and at once a pressure effected on the head with a tendency to push it downwards and towards the mesian line, while the breech is gently pushed upwards and towards the opposite side. All this is done during an interval of the pains. As soon as another pain begins, both hands keep their place, and the woman is ordered to turn on her left side. With the remission of the pain the same manœuvre must be repeated, and continued until a change of presentation is effected. This having been ascertained by internal examination, the woman has to continue the posture on her left side, and a small hard pillow is to be placed just underneath that portion of the abdomen where the foetal head was at first situated. If after a number of pains the head is found to have retaken its former situation, the manipulations must be repeated, and after turning has been effected again it is advisable to rupture the membranes, in order to keep the head from returning to where it was formerly imbedded. The rest of labour is conducted like an ordinary vertex presentation.

"In some cases it is necessary to repeat these manipulations three or four times before the head becomes firmly engaged in the upper strait. But should the operator not have succeeded before the waters are discharged, it is not safe nor of any use to persevere in the operations. After the rupture of the amniotic bag the child must be turned by the feet, or on the head, by internal manipulations. Sometimes it is possible to effect a rectification of the presentation, by a proper posture of the mother on that side where the head of the child is situated, while a pillow is placed underneath the latter. This may be attempted even before labour has begun, as

some authors, and especially Dr. Mattei, recommend it. The most suitable time for the performance of the operation as detailed above, is from the beginning of labour to perfect dilatation of the os. The operation has been attempted in the last weeks of pregnancy; but as the pains themselves are a very important aid for the successful performance of the operation, it is not advisable to undertake it at an earlier season. There is no doubt that the position of the fœtus can be changed at any time during the last months of gestation; but it is the general opinion of authors, that a lasting rectification can only be attained when the operation is performed at the time of the beginning of labour.

"The only physical obstacle against a successful operation is an unusual thickness or tension of the abdominal walls, which prevents a clear diagnosis of the presentation. Finally, the womb itself might be by some cause or other too tender to allow of a continued pressing with the hands, or it might be so firmly contracted around the fœtus, owing to a scarcity of liquor amnii, that all our attempts would fail to succeed. But these are coincidences not very often met with, and it is therefore the more to be wondered at that this harmless operation is not generally attempted by obstetricians. The reasons for this unjustifiable neglect among practitioners on this continent may be found in the want of recommendation of this operation by English and American authors, in the want of confidence attached to external examination, and perhaps in a very pardonable desire to choose rather an operation (turning by the feet) which never fails to have a striking effect, than one which may perhaps result in an unsuccessful attempt. But if we consider that by this attempt nothing is lost for future action in another way; if we consider the trifling reaction which it leaves on the system of the mother; if we consider the advantages of a vertex presentation for the life of the child, we feel it our duty to call upon the profession to remember that there is such a thing as turning by external manipulation, and that those who have practised it most often were men the names of whom we only pronounce with a feeling of deepest admiration."

ART. 123.—*On turning by External Manipulation.*
By Dr. C. ESTERLE, Professor of Obstetrics at Trient.

(*New York Jour. of Medicine*, Jan., 1860.)

The attention of Professor Esterle was directed to the operation of turning the child by external manipulations partly by the authority of Wigand, Mattei, and Stoltz, partly by the frequent occurrence of spontaneous version during the latter months of pregnancy. All women who enter the Instituto D'elle Laste, are very accurately examined before being admitted, and so it was found that in the seventh to eighth month of pregnancy, a considerable number of children presented in a transverse position, and although formerly nothing was done to rectify this cross-position, most of the children presented with the vertex at the time of delivery.

In order to perform the operation of turning by external manipulations, the accoucheur must be thoroughly acquainted with the means

by which nature effects spontaneous version, and with this view the following points are of importance :

1. The constantly increasing dilatation of the lower section of the womb, by which the long diameter of the uterus gains over the lateral diameter, so that the growing fœtus is compelled to change its situation in order to adapt itself to the shape of the womb. This occurs very rarely before the seventh month of gestation.

2. The partial contractions of the womb, which set in very often long before beginning labour, and which by lateral pressure upon the most prominent points of the fœtal body, compel the latter to occupy the fundus uteri with one of its two extreme points (nates or head). In the great majority of instances, the cephalic end sinks downwards, because it was already placed lower down, a fact proven by the frequency of shoulder presentations, in cases of transverse presentations, and because the more moveable head is easier pushed downwards into the narrower space of the lower portion of the womb, than the less moveable nates.

3. The regular contractions of the uterus at beginning labour, do very often promote the rectification of a cross position.

4. The most efficient cause of spontaneous version, is the united action of the active movements of the fœtus and of its gravitation, inasmuch as the point of gravitation in the fœtus is situated, if not in the head itself, at least near by it. To these conditions must be added a sufficient quantity of liquor amnii. This explanation is strengthened by the fact, that no spontaneous version occurs with dead children, except at the time of labour. Although it cannot be doubted that, in a large number of cases, the cross positions observed in the seventh or eighth month of gestation will be changed spontaneously into vertex presentations, it must be considered, on the other hand, that part of them remain unchanged even after labour has fully set in, thus requiring an operation, which is often painful, distressing, and dangerous for the mother, and more so for the child. This can be averted by a turning of the child *before labour has begun*, while this operation has another important advantage, viz., that of doing away with the danger of a premature confinement, which latter is often caused by a cross presentation alone. The effect of the operation is moreover so void of all physical and moral suffering of the mother, that it ought to be performed at any time during the last three months of pregnancy, as soon as the accoucheur detects a transverse presentation.

The principal condition for the successful performance of turning by external manipulations is the possibility of an exact diagnosis of the position of the child in the latter months of gestation. In most cases *external examination alone* is sufficient to make out the position of the child. Both palpation and auscultation will seldom fail to give us positive results, while even in vertex or breech presentations, the internal examination is very often unreliable during the three last months of pregnancy. Another advantage of external examinations is the fact that it is very seldom objected to by private patients, who would never allow an internal examination to be performed before beginning labour.

With regard to the manœuvre by which the operation ought to be performed, Dr. Esterle alludes to the rules laid down by Wigand and Mattei. He considers the proposition of the latter, viz., to change a breech into a vertex presentation, as unnecessary and dangerous. Nor does the author approve of the advice of those who recommend to change a cross presentation always into that of the vertex, because in cases where nates are located nearer to the pelvic entrance, than the head, this operation is very difficult and almost impossible, while the turning on the breech is very easily performed, as the author himself had occasion to observe in a number of cases.

For the performance of the operation, the woman has to be placed in such a position, that the abdominal muscles become as much relaxed as possible. In its execution the proceeding of nature in spontaneous version must be followed. Thus the partial peripheric contractions of the womb, by which its lateral diameter is diminished must be supplanted by lateral pressure, directed towards the fundus on the fundus on one side, and towards the os on the other. The efficacy of these manipulations will be very much increased by gentle knocks applied alternately upon both ends of the ovum, by which their removal from the uterine wall, a greater mobility of the fœtus, and its presentation in the direction of the point of gravitation, will be effected. These concussions may be performed after a while in quick succession, be it only upon the head, while the other hand maintains a constant pressure upon the opposite part of the fœtus, or on the breech and cephalic end at once in an opposite direction. The author asserts that by following these rules, he had often been enabled to bring the head to the pelvic entrance in a very short time, while pressure alone seemed to have, in many instances, very little effect.

Still the first attempt is not always successful. Great tenderness of the womb, excessive obesity, anasarca, want of liquor amnii, malformation of the bones, tumours, deformities of the fœtus may prove an obstacle to the successful performance of the operation. As soon as one or repeated manipulations have effected the desired rectification, it is necessary to maintain the fœtus in this position, be it by an abdominal bandage, or by the posture of the woman.

But even after labour has begun, the operation may be attempted, especially as long as the membranes are not yet broken. Its performance is at this time more difficult to perform, but on the other hand we have the advantage of fixing the head after the turning by rupturing the amniotic bag. After the discharge of the water the operation has been successful only in very few instances.

The author's observations refer to five hundred pregnant women, who were examined in the seventh or eighth month of pregnancy; among this number twenty-two transverse presentations were detected by external examination; in nine of these spontaneous version occurred, ten times turning by external manipulations was performed, twice cephalic version by a combined internal and external manipulation, and only once the internal turning by the feet. In the ten cases, where the operation by external manipulation was performed, there was once placenta prævia, twice slight contraction of the pelvis, and three times excessive latero-version of the womb. Nine of these

children were turned on the head, one on the nates. Of these ten women, nine went through a regular confinement, while one expects her delivery very soon. Three very interesting cases are reported.

ART. 124.—*Where the Forceps fails, is Craniotomy our only resource?*

By Dr. ROBERT BARNES.

(*Lancet*, March 24, 1860.)

The affirmative answer involves two objections of serious moment. First, it condemns a multitude of children yet unborn to certain destruction. Secondly, it arrests, *in limine*, all improvement, all progress in the obstetric art, as bearing upon labour obstructed through contraction of the pelvis.

Humanity and science, then, conspire in urging us to hesitate long, and to examine patiently, before yielding our assent to a decision so revolting.

"If there is one way," says Dr. Barnes, "in which I am conscious that observation and reflection have wrought a more wholesome, a more chastening, influence upon my mind than another, it is in convincing me of the error of deciding upon great medical questions by *à priori* reasoning, instead of appealing to experience. It must be obvious that such a course interposes a formidable barrier against the advancement of knowledge. He who is strong in the self-sufficiency of actual knowledge will be apt to discourage the spirit of inquiry in others. We are not yet arrived at that stage in the history of Medicine where we can rest content in the sterile contemplation of present acquirements, and can afford to abandon the fertile paths of experiment and inquiry.

"I believe that in no case more than in the one before us do we run more danger of falling into error, by substituting bare reasoning for that method by which reasoning and experience combined are constantly made to guide and check each other. What is wanted is an experience *ad rem*. To seek illustrations from practice conducted upon diametrically opposite principles, is to seek for light where it has been purposely extinguished. Yet it is from this darkened source that all the arguments against delivery by turning in contracted pelvis are drawn. It is scarcely, then, a matter for surprise that these arguments assume an aspect so logical and consistent, enforced as they are by men of such deserved authority that they almost command assent.

"The case against turning and in favour of craniotomy in contracted pelvis may be stated briefly in this way. It is estimated that rather more than one third of the children are lost under turning where the pelvis is of the ordinary size. It is urged that a living child may pass through a pelvis, the conjugate diameter of which is 3·25", with or without the forceps. Now, it must be conceded that the main object of delivering by turning is to save the child's life. But in the case of a pelvis having a conjugate diameter of 3·25", the operation is unnecessary. Its application must therefore be limited to cases in which the pelvis measures less than 3·25". And, it is asked, what is the chance of the birth of a living child when the violence of compression is added to the ordinary risk of turning? Are we justified, for the sake of the very slender hope of saving the child under such circumstances, in subjecting

the mother to the dangers of contusion, of laceration, of inflammation, which it is but natural to anticipate will follow upon dragging the child by sheer force through a narrow pelvis?

"Such is the argument, endorsed by great names, that has to be encountered. It required no ordinary sagacity, and no common courage, to detect the fallacy of the argument, and to rebel against the authority that supported it. It required moral courage to dispute what seemed a well-settled rule of practice; it called for the courage of clinical enterprise to carry out a plan of treatment, the success of which was doubtful, the result of which might be disastrous. Under all this discouragement Professor Simpson revived the operation. If it be destined to resume a place in obstetric art, this result will be mainly due to his sagacity and enterprise. But in according due praise to Dr. Simpson, the merit of the practitioners of former times must not be forgotten. The operation is not new, but revived. Dr. Simpson, presenting his papers on this subject in 1850 in a collected form, prefaced them with the following remark: 'Four additional sections or chapters were intended to be added—namely, one on the mechanism of the proposed mode of delivery as influencing the steps of the practice itself; a second, on the cases of obstructed labour chiefly adapted for delivery by turning; a third, on the best mode of conducting the operation in these special cases; and a fourth, or last, upon the history of the practice in ancient and in modern times.

"I am not aware that Dr. Simpson has yet realized his intention of writing the last or historical section. But the deficiency has been ably supplied by Dr. Charles West and Dr. Ramsbotham. Since obstetric doctrines, like other things, sometimes revolve in cycles, it is interesting to examine the circumstances under which the operation we are now considering arose, and the phases it has undergone. For some time after the value of turning in order to deliver in cases of transverse presentation had been demonstrated by Ambrose Paré, the operation grew into favour, and was resorted to under a great variety of circumstances. It would appear to have been the general resource where artificial delivery was indicated on account of obstruction or urgent complications. The reason was simply that, the forceps being unknown, and the other instruments in use being so rude and inefficient, the hand was, and perhaps still is really the obstetrician's best instrument. To it he therefore trusted. Many acquired great skill in turning. The operation was resorted to in cases of obstructed labour. It was only after the introduction and vulgarisation of the forceps that turning fell into disuse. And when the craniotomy instruments were perfected, for the purposes of lessening the head and extracting it by crochet or forceps, craniotomy presented a solution of the difficulty so tempting by its facility that turning came to be nearly, if not altogether, discarded. The practice, however, was partially maintained in this country by Dr. Denman; in France by Baudelocque and Lachapelle; in Germany by Stein and Osiander the elder. But, although it was still distinctly advocated in 1833 by Osiander the younger, it may be said that the application of turning as a method of delivery in contracted pelvis is either emphatically condemned in the schools, or holds at best a very doubtful place. Now we are 'trying back.' And it is time. I cannot help declaring that craniotomy is carried to a frightful excess. As holding out a hope, at least, of lessening

that excess, it has become a matter of urgent moment to direct our most anxious and candid attention to the applications of turning.

"What are these applications? I believe we are not yet in a position to give a definite answer to this question. I postpone all attempt to answer it. I propose to subject it to the test of clinical experience."

ART. 125.—On the use of the Forceps in Face Presentation. By Dr. VON HELLY, Professor of Obstetrics in the University of Prague.

(*Vierteljahrschr. für Prakt. Heilk.*, 1859, and *Med.-Chir. Review*, April, 1860.)

Dr. Von Helly presents a valuable analysis of the mechanism and treatment of face presentations. Starting from the familiar fact, that these are more tedious than labours in which the vertex presents, he says the reason lies in the circumference with which the head enters the pelvis, and in the unusual relations which the peculiar position of the fœtus induces. The head of a fœtus born by the vertex, is lengthened in the longest or diagonal diameter—i.e., from chin to vertex; the vertex is the highest point, towards which the roof of the skull forms a gradually inclined plane from the forehead. The diagonal diameter surpasses the straight one, from forehead to vertex, by an inch, so that the two diameters form two lines which, when the head is looked at in profile, form an irregular triangle. The occiput of a head born by face-presentation appears drawn out or lengthened in the direction of the straight diameter; the roof is but slightly arched, is flat, and ends in a sharper angle at the forehead. The difference between the straight and diagonal diameters disappears, so that the two lines, one drawn from forehead to vertex, the other from chin to vertex, form a nearly isosceles triangle. Measurements have been made in reference to this point in thirty-two cases; these give:—

The straight diameter was longer than the diagonal in two cases.

"	"	equal to	"	12	"
"	"	$\frac{1}{4}$ " shorter	"	13	"
"	"	$\frac{1}{2}$ " "	"	3	"
"	"	1" "	"	2	"

The head finds, from the arching of the roof and occiput towards the opposing side of the pelvis, an obstruction to its descent, whence, through protracted uterine contractions, the neck is more stretched, the occiput approaches the back, and the forehead from having been the lowest part is drawn back. When the skull is flattened, and the head has in this manner lost in height, its vertical diameter decreases in length, and so finds room in the pelvic brim, the chin sinking backwards to be on the same level as the forehead. When the face approaches the outlet, the chin immediately leaves the side of the pelvis, draws forward near the symphysis, and the neck places itself against the posterior surface of the anterior wall of the pelvis. Most frequently this change from the diagonal to the antero-posterior diameter is effected at the floor of the pelvis. The skull thus enters the cavity of the sacrum; the chin is gradually driven forward under the symphysis pubis, and the face becomes visible between the labia

puḍendi. Forehead, roof, and occiput roll over the perinæum, whilst the head, by revolving on its horizontal axis, is brought nearer to the breast.

Dr. Von Helly cites the well-known experience of L. J. Bœr, as proving the efficacy of nature in bringing these cases to an end; and says, that in fifty-eight cases which have occurred in the last few years in the Prague Lying-in Hospital, perforation was performed twice under urgent circumstances, the child being dead, and in two instances the forceps was used.

Dr. Von Helly deprecates attempts to alter the presentation by changing the face for the occiput, or by turning. In the fifty-eight cases of the Prague Hospital there was a proportion of 18-19 per cent. of dead-born children, calculated in this wise: two were delivered after perforation, one was born putrid; these three being subtracted, there remained fifty-five births. Of these ten gave dead children. The cause of this unfavorable result to the child lies in the compression which the skull and brain undergo; in the obstruction to the circulation of the brain, caused by the diminution of the calibre of the vessels of the neck under the great stretching produced: and, above all, by the long continuance of these dangerous conditions occasioned by the unusual protraction of the labour. Injury of the spinal marrow he looks upon as theoretical, and says he has found few opportunities of observing in the autopsies cerebral apoplexy, although there may be congestion of the brain and membranes.

Before the dilatation of the os uteri, the author deprecates interference. In cases where the necessity for aid arises, and the os is open, the question, he says, is in what relation the forceps is to be applied to the face-presentation, and how it is to be applied so as to entail no bad result for mother or child. The long forceps ought not to be applied when the head is still high; at this stage the circumference and resistance of the head is still great; the operation is very difficult, the prospect of the child's life very small; whilst danger is incurred by the mother from the liability of the instrument to slip. Above the brim the double-curved forceps must be applied in the transverse diameter; one blade will lay on the forehead and crown, but the other can get no secure hold on the face and neck without so compressing the latter part as to destroy it. If urgent circumstances call for delivery when the child is undoubtedly dead, perforation is to be resorted to.

When auscultation declares that the child is alive, nothing but accidents threatening the mother can justify tentative applications of the forceps; and as soon as conviction is obtained that further force is dangerous for the mother, perforation is indicated. The author agrees with Mittermaier and the greater number of obstetric practitioners in deciding in favour of perforation even when the child may still be alive, rather than with those who would wait until the lives of both mother and child are imperilled. But when the face has descended into the lower part of the pelvic cavity, the relations are so changed as to be more favorable for the forceps; one blade can be laid in opposition to the sacro-iliac synchondrosis, the other to the foramen ovale. If the chin be at the symphysis, the application of the forceps is of course still easier.

The following two cases are important :—

CASE 1.—A woman who had borne eight children was in labour on the 9th of September at term; the liquor amnii had escaped. Pains first came on next day, weak, and rare. Accustomed to quick labours, and getting anxious, she pressed the midwife to apply the forceps. This was done on the 11th, and abandoned after fruitless attempts. Another and a third attempt was made on the following day by several physicians, which were equally fruitless; and the patient was brought to hospital. The countenance was blanched, the features sunk, extremities cold, pulse scarcely felt, abdomen painful and meteoric, uterus unevenly distended, the lips of the os uteri swollen, hanging flaccid in the vagina. The head was in the brim, face presenting in the transverse diameter, the forehead to the right and lower down. The presenting eye was hanging out of its socket; the epidermis came off the face in shreds. The patient was a little revived from her state of exhaustion by hot wine and musk. The trepan-perforator was applied, and a large putrid child extracted by forceps. On removing the placenta, the previously diagnosed rent in the uterus was felt. Death took place in the evening. Section revealed a rent in the fore and left side of the cervix, and a conjugate diameter of 3" 11".

CASE 2.—A woman who had borne four living children naturally was in labour at term. A surgeon called in, applied forceps an hour after escape of waters, and, as this slipped, tried to turn. Flooding appeared, and the patient was brought to hospital. The pulse was small, quick; abdomen distended with gas; uterus contracted on its contents; genitals swollen. In the vagina was the right foot and right arm. Higher up was felt the face on the brim. The head was prevented from descending by the lower extremities being dragged behind the head, whilst the descended arm was hemmed in between the head and left side of the pelvis. The line of the face lay in transverse diameter, forehead to the right. The presenting arm was replaced with some difficulty, and so much room was gained that the forehead could be perforated by Kiwisch's instrument. The cephalotribe slipped off. By pulling at the foot extraction was at length effected. The fœtus, apparently not long dead, weighed without brain six and three quarter pounds Vienna civil weight. The mother collapsed after the operation, and died after four days under symptoms of peritonitis. Section revealed purulent exudation in great quantity, covering the peritoneum, and here and there between the lamellæ blood-effusion. The iliac part of the peritoneum was torn through; gangrenous endo-metritis; left half of cervical canal torn through, the rent gaping, and opening into abdominal cavity.

ART. 126.—*The cases and conditions in which Craniotomy or Cranioclasm is necessary.* By Dr. SIMPSON, Professor of Medicine and Midwifery in the University of Edinburgh.

(*Med. Times and Gazette*, April 15 and May 19, 1860.)

"Much," says Dr. Simpson, "as I deprecate the too frequent or unnecessary destruction of the life of the child as a means of terminating a difficult labour; and, much as I detest the performance of such an operation, I cannot concur with Dr. Smith in his unconditional and uncompromising condemnation of the operation; nor can I think it aught else than a fond Utopian dream to suppose that craniotomy in every form may be for ever deleted from the list of obstetrical operations. I should hold myself guilty of fœticide were I to destroy the life of a child

in utero by breaking down its skull with a view to facilitate its delivery, if I believed that that child could be extracted alive by any form of operation that afforded an equal hope of safety to the mother, as by the forceps or by turning. But experience has taught me, as it has taught others, that cases may, and do, sometimes, however seldom, come before us where we are shut up to the performance of this operation; and in order that you may be made fully alive to the importance and necessity of acquainting yourselves with all the details of it, you must allow me now briefly to indicate to you some of the cases and conditions in which you may be called upon to have recourse, however unwillingly, to the operation of craniotomy, or its substitute, cranioclasm."

The conditions justifying the operation diminutive of the foetal head are:

"I. When the child is dead.

"You may be called to deliver a patient in whom obstructed labour has been going on for so many hours that the child has at length succumbed under the contractile efforts made by the uterus for its expulsion, or the obstetric procedures that have been put in practice for its extraction; and in such a case it may be both easier for you, and safer for your patient, to break down the skull of the already dead infant than to persevere in attempting to effect delivery by any other operative measures. In obstructed and protracted labours the child, in a large number of cases, dies betimes under the compression of the head, body, and cord to which it is subjected. During the seven years that Dr. Collins was physician to the Dublin Lying-in Hospital, 1 in every 3 of the children was born dead among the mothers whose labours were prolonged from 25 to 36 hours; 1 in every 2 when the labour was from 37 to 48 hours in duration. Out of 32 children born in labours extended from 47 to 60 hours, 21 were dead, or 2 in every 3; and out of 15 labours allowed to run on beyond 60 hours, 11 were born dead, or 4 out of every 5,—a dreadful rate of infantile mortality from protracted parturition. Let me, however, remark in passing, the maternal danger and mortality increase also with the increased duration of the labour with frightful rapidity, when the subject is examined on the large scale. Among the 130 cases of labour protracted beyond 36 hours, which occurred during Dr. Collins' mastership, 24, or 1 in every 6, of the mothers died. But, I repeat, supposing you found in an obstructed labour that the child was already dead, the question as to the proper line of practice to be pursued then resolves itself simply into this: By what means can the labour be terminated most speedily and safely? Craniotomy, indeed, as it has usually been performed hitherto, is by no means always a very expeditious operation; and statistics abundantly show that it is far from being a safe one—particularly when too great delay has been allowed to occur before its performance. In fact, the danger to the mother attendant upon craniotomy, is, like the danger attendant upon delivery by the forceps and turning, and—to speak in more generalised terms—like the danger attendant upon all tedious labours, regulated in a great measure by the previous degree of duration of the process of parturition. Among 76 cases of craniotomy performed by Dr. Collins when the labour at the time of operative delivery was under 24 hours, only 1 out of 19 mothers

died; when the previous duration of the labour varied from 24 to 48 hours, craniotomy proved fatal to the mothers in 1 out of every 8; but when the labour had been prolonged already beyond 48 hours, it was fatal in 1 out of every 3 cases. But the operation of cranioclasm, which I venture to propose to substitute for it, will be found, I believe, in many cases where the child is already dead, to be at once more simple in its performance for the practitioner and more safe for the patient than extraction either by means of turning or of the long forceps.

“II. *Where the long forceps have been tried and have failed.*

“You may meet with cases in practice where the head of the child is so large or so strongly ossified, or where the brim, cavity, or outlet of the pelvis is so contracted that you could not succeed in dragging the former through the latter by means of the long forceps with any reasonable degree of force. I say reasonable, because in such a case you might possibly succeed in effecting the extraction of the head, but only by exerting such an amount of force as would dangerously damage and destroy the soft parts of the maternal passages, and almost inevitably cause the death of the infant by compression of the brain. In such a case it will be your duty to spare the mother the dangers of such a perilous forceps operation—even although the life of the child be sacrificed by art, a few hours before it would perish inevitably, and with greatly increased danger to the mother, under the prolonged struggles of Nature,—by having recourse to the operative reduction of the child's head, provided always that it be a case.

“III. *Where turning is impossible.*

“In many cases where it would be dangerous to the mother to effect the delivery of a living child by the use of forceps, you may attain your object by having recourse to the operation of version—as has been abundantly proved by the results of experience. The comparative facility and safety, indeed, of version, as contrasted with craniotomy, form one of the grand arguments on which the proposal to abridge or even abolish this latter operation from practice has been founded. But all cases of labour, obstructed from defective pelvic space, are not, of course, adapted for turning. The graver varieties of pelvic deformity arising from malacosteon and rickets, and, indeed, all other morbid contractions of the pelvic canal in which any of the diameters are diminished beyond $2\frac{1}{2}$ or $2\frac{3}{4}$ inches, forbid all idea of the operative delivery of a living child at the full time either by turning or by the forceps. Where the contraction is placed at the outlet, as in funnel-shaped pelves, you can only try the forceps; you must not dream of having recourse to turning; for the operation of version is only to be thought of in those cases of obstructed labour where the head is lodged above, or in, the brim of the pelvis in consequence of some morbid contraction of that brim, and does not apply to cases where the head has already quite passed down into the pelvic cavity. All morbid contractions, however, of the brim are not suited for extraction by turning. If the pelvic brim be absolutely small in all its dimensions, and all its diameters are consequently shorter than natural—if, in other words, if the pelvic brim and perhaps the whole pelvis is of the form and type usually described as the “*pelvis aequiliter*

justo minor,"—any attempt at delivery by turning is utterly contraindicated and forbidden, and will fail; and so probably will the long forceps also. The same remark probably equally applies to the ovate or oblique types of pelvis deformity. In fact, the kind of contracted brim chiefly justifying and indicating turning—(and it is certainly by far the most common kind of deformed brim met with in practice),—is that in which its conjugate diameter is diminished half an inch, an inch, or even more, by the projection forward of the promontory of the sacrum behind, or by the flattening and twisting of the pubic bones in front; while the opposite or transverse diameters remain unaffected, or even, as sometimes happens, are increased in length. But again, all cases of labour obstructed from slight or considerable projection forward of the promontory of the sacrum are not adapted for delivery by turning. For unfortunately, rare cases do from time to time occur where it is impossible to turn the child at all, or where the operation can only be persevered in at the imminent risk of rupturing or lacerating the interior of the uterus or otherwise injuring the maternal structures. In the cases I refer to, labour has usually been going on for a lengthened period before the arrival of the practitioner, the liquor amnii has been long discharged, and the uterus is contracted so firmly and adapted so accurately around the fœtus, that the simple introduction of the hand into the cavity of that organ is not unattended with difficulty and danger. Even in the deepest sleep induced by chloroform, this state of persistent tonic contraction of the uterine walls still occasionally, though fortunately very seldom, presents an obstacle to the operation of turning; and in such rare cases you afford your patient the best and almost the only chance of safety by diminishing the size of the fœtal head, so as to permit of its passage through the brim. You may tell me that the difficulties in such cases should be met by the induction rather of premature labour. But there are certain cases.

"IV. *Where there has been no opportunity of inducing premature labour.*

"No practitioner of the present day, who is consulted by a pregnant patient with a pelvis so contracted as to render the parturition of a full developed fœtus a matter of danger and difficulty, would hesitate, I should hope, to induce premature labour at an appropriate period; rather than allow that patient to carry her child to the full time, and then deliver her by such an operation as that of craniotomy, or even by the forceps, or turning. But in practice it sometimes happens that we may be prevented from doing what is right, and the responsibility of the matter is taken out of our hands.

"1st. *Because of the objections and obstructions put by patients to the operation.*—It may seem almost incredible, but it is nevertheless most true, that there are many persons,—more particularly in the lower classes of society,—who have an insuperable though absurd aversion to any kind of interference with what they consider to be the course of Nature. So strong is this pernicious prejudice that you will sometimes meet with a patient, particularly in hospital and dispensary practice, who has been once or oftener subjected to all the pains and all the perils of a deadly form of instrumental delivery, choosing rather to run these same risks over again, than to allow you to save her child and spare herself much

unnecessary suffering and sorrow by bringing on labour two, three, or more, weeks before the normal period of parturition. In such a case you may have no alternative, when the full term of utero-gestation is accomplished, but be obliged to deliver the child by reducing artificially the size of its head at the time of parturition. Again, we may have no opportunity of inducing premature labour.

"2d. *Because it is the patient's first confinement.*—When we have once found it necessary to have recourse to craniotomy in any female, we may save her the dangers of that operation when she again becomes pregnant by bringing on her second labour some weeks before the full term of utero-gestation. But when we are called to deliver such a patient in her first confinement, matters are already too far advanced, and from our having had no means of knowing beforehand of the existence of any pre-natural smallness, contraction, or deformity in the pelvis, we have lost the opportunity of affording her the happier and safer chances offered by this form of operation, and may now have no resource but the more fatal and formidable operation of craniotomy.

"Under these circumstances, then, and in cases such as these, where no opportunity has been afforded us of inducing premature labour, and where it is found impossible to deliver the child by turning, or with the long forceps, we may occasionally find ourselves obliged to have recourse to the alternative measure of diminishing the size of the fetal head. This operation, I again repeat, you will very rarely be justified in performing on a living child; nor will you have occasion to perform it very frequently where the child is dead; although you will then have less hesitation in adopting it."

ART. 127.—*Further observations on the pathology and treatment of Placenta Prævia.* By Dr. ROBERT BARNES.

(*Lancet*, Nov. 4, 1859.)

After relating fourteen cases which had come under his own care since the publication of his work on the subject, Dr. Barnes appends two series of propositions, the one physiological, the other therapeutical—which appear to be either proved or illustrated by those cases.

Among the physiological propositions are the following:—That in many cases of placental presentation, there arrives a stage when the hæmorrhage is spontaneously arrested. That this physiological arrest is not owing to pressure upon the bared surface of the uterus by the bag of liquor amnii, or the child; nor to death of the child; nor to syncope; nor to total detachment of the placenta. That this physiological arrest of the hæmorrhage is observed when that part of the placenta which had been implanted within the cervical or lower zone of the uterus has been all detached, contraction of the uterus attending. That, this stage reached, there is no physiological or pathological reason why further detachment of placenta seated within the middle and fundal zones should occur until after the expulsion of the child, when—and not till then—the remainder of the placenta is cast off as in normal labour. That the position of the greater portion of the placenta to the posterior wall of the uterus in these cases, where it forms, by resting on

the projecting promontory of the sacrum, a solid inclined plane, directed forwards, is a frequent cause of the transverse presentations which are apt to complicate placenta prævia. That in the great majority of cases, where an edge of the placenta comes down to the os internum uteri, the umbilical cord springs from this edge, and thus is ready to fall through into the vagina, should the os not be occluded by the child's head.

Amongst the therapeutical propositions are the following:—That owing to the high vascularity and development of the lower segment of the uterus, resulting from this part being the seat of the placenta, uterine inflammation and puerperal fever are exceedingly likely to ensue from the pressure and contusion attending the passage of the child. That this danger is much increased by the forcible introduction of the hand for the purpose of turning and extracting the child before the os uteri has expanded. That in some cases, where it is observed that the placenta has been separated spontaneously from the lower segment of the uterus, the os being expanded to the size of a crown-piece, and the hæmorrhage having ceased, it is not necessary to interfere with a labour now become natural *quoad* placental attachment. That since the os internum uteri must expand to the diameter of the child's head, and since, during the dilatation, the placenta adhering to the lower segment is liable to successive detachment, causing hæmorrhages, it is an indication to expedite this stage of the labour as much as possible. That in some cases the ordinary means of inducing contraction—such as rupturing the membranes, plugging the cervix, ergot or galvanism—will suffice to cause the rapid and safe expansion of the os. That the adhesion of placenta to the lower zone of the uterus impedes the regular progress of labour, and delays the equable expansion of the os uteri. That in those critical cases where forced delivery or the artificial total detachment of the placenta are dangerous or impracticable operations, the introduction of the index finger through the os, and the separation of the part of the placenta adhering to the cervical zone, is a safe and feasible operation.

ART. 128.—*Successful case of Transfusion.*
By Mr. JOHN THOMSON, of Kilmarnock.

(*Glasgow Med. Journal*, April, 1860.)

CASE.—On the 27th November, 1859, I was called to visit Mrs. M—, æt. 31, of rather delicate constitution, and the mother of four children. After the birth of her third child, flooding took place to such an alarming extent as to place her in circumstances of the most imminent peril. This was accompanied with almost constant retching and vomiting for a period of about three weeks. During the whole of this time life was sustained by enemata of beef tea, with the addition of a fixed amount either of wine or brandy. Convalescence at last was established, and she made a slow but progressive recovery.

At my first visit, on the present occasion, I learned that the menses had been absent for a period of about four months. Her breasts at first began to swell, and she experienced the usual concomitants of pregnancy. At the end of two months she sustained a slight injury. Very soon after this, the swelling and fulness of the breasts gradually subsided, while the other symptoms which characterise that condition ceased to be felt. Being anxious and

uncertain as to what her situation really was, I had little hesitation in expressing my conviction that she really was pregnant, but that in consequence of the injury the fetus in all probability was dead. A few days after this I was summoned again, and found that, from slight pains in the back and some hæmorrhage from the uterus, the symptoms of an approaching abortion had already set in. An anodyne and astringent mixture was prescribed, with rest in the horizontal position. Three days after this the flooding, which had never entirely gone off, had now become severe. An examination per vaginam discovered the os uteri so far opened as to admit the point of the finger, with which the ovum, partially detached, could easily be felt. In order to prevent any further loss of blood, the vagina was immediately plugged, and a dose of *secale cornutum* administered. At the end of other two days the plug was withdrawn, but still the ovum had not been discharged. The hæmorrhage having apparently ceased, the plug was not reintroduced. During the course of the following night smart flooding again occurred, and there is reason to believe that the ovum now came away, and was removed along with some large clots of blood, as it never afterwards could either be seen or felt. The vagina was plugged again, and this was done so firmly and effectually as to prevent the bladder from being emptied, and thereby rendering it unavoidably necessary that it should at least in part be withdrawn. For the first twenty-four hours everything went on as favorably as could be expected, the flooding having entirely ceased. I called early on the morning of Sabbath, the 4th of December, and found her sitting up in bed, eating her breakfast, and expressing herself as being much stronger. She was ordered to remain quietly in bed, and to continue the use of a little brandy and water, which had been prescribed several days before. Shortly after this I was obliged to go some distance into the country, and did not return home till late in the afternoon. About 2 p.m. of the same day an urgent message was sent requiring my instant attendance, in consequence of a renewal of the flooding. In my absence Dr. Macleod was called in, who found the patient in a very weak and exhausted condition. The plug was removed, and the vagina cleared of clots. Cold applications to the belly and vulva were immediately made, and brandy, ammonia, and chloric ether were perseveringly administered as restoratives. A strong solution of alum and sulphate of zinc was also injected into the vagina. By this time the case had begun to assume a very serious aspect, when Dr. Macleod, fearing that the patient could not long survive, requested that Dr. Paxton might be sent for. For two hours these two gentlemen laboured with the most unremitting assiduity, and employed every remedy which their united wisdom and experience could suggest. At one time she seemed to rally, and at another to be so far sunk as to lead to the conviction that death must very speedily ensue. For a while the pulse would entirely disappear, the skin feel cold, and the countenance look ghastly. By and by the pulse would again be felt beating feebly and irregularly, and the tide of life once more seem destined to return. This was speedily followed by a relapse of the same alarming symptoms; and so near did death at one time appear to be, that the medical attendants considered it necessary to warn the husband and other near relatives, and to summon them into the room before a dissolution, which now appeared inevitable, might take place. At this critical juncture, I arrived, when I found the patient in a state of total unconsciousness, the pulse scarcely perceptible at the wrist, the skin covered with a cold, clammy perspiration, the eyes turned upwards and vacant, with constant moaning and jactitation. Every effort to rally the rapidly retreating powers of life was rendered abortive, in consequence of the irritable nature of the stomach, which rejected everything almost as soon as it was swallowed. In these desperate circumstances, an

arrow-root enema, with four ounces of brandy, was thrown into the rectum. No improvement having taken place in half an hour, another enema of the same kind was administered. Notwithstanding, of all the means thus employed the patient still continued in the same helpless and now apparently hopeless condition. The question now came to be discussed whether anything further could be done. It was then proposed as a last resource that transfusion might be tried. The immediate relatives were informed of the measures which were contemplated, and to which they gave a ready and unanimous consent, the patient's own mother frankly volunteering to permit the blood that was required to be taken from her own arm. Everything was got in order as quickly as possible. The syringe was carefully inspected, gently heated in water, and every possible precaution taken, first to exclude, and then to prevent, the ingress of air. A small vein at the bend of the arm was with some difficulty detected, collapsed and nearly bloodless, on account of the feeble nature of the circulation. This was first isolated, and then opened. By this time about twelve ounces of blood had been allowed to flow into a large cup, and which, in order to prevent coagulation, was placed in a large basin half full of warm water. During the whole of these preliminaries the patient remained in a state of total unconsciousness. The blood was now slowly injected into the vein. After about six ounces had been got in, we fancied we could observe the pulse to become a little stronger. About double of this quantity was injected, and the wound was then bound up. The jactitation, which before had been so constant, very soon ceased altogether; the pulse gradually rose in strength, and in half an hour the patient seemed to have sunk into a calm and tranquil slumber. The pulse now beat at 90, perfectly regular, though still somewhat feebly. As everything now had begun to wear a somewhat more favorable aspect, my two medical friends left, whilst I remained to watch the patient for some time longer. From this period till 4 a.m. of the 5th she continued to enjoy uninterrupted repose, accompanied occasionally with moaning and tossing about of her lower extremities. In the morning she awoke perfectly refreshed, much recruited in strength, and entirely conscious, with a pulse of ordinary strength, and still beating at 90. In order to allay her thirst, which was intense, and the retching with which she was troubled every now and then, ice was prescribed with very considerable advantage. For the purpose of recruiting her strength, enemata of beef tea, with a couple of glasses of wine in each, were administered three times daily. At my first visit to-day, she told me that she had no recollection of seeing me the day before, that she was wholly unconscious of any operation having been performed on her, and must, therefore, have remained in a state of complete insensibility for more than twelve hours. At 10 a.m. my two medical friends met me in consultation, and were extremely gratified to find the patient in so comfortable a condition, with an entire absence of everything which could create immediate apprehension. With the addition of twenty drops of the liquor opii sedativus to the evening enema, my patient continued to enjoy comfortable rest, broken only occasionally by a disposition to retching and vomiting. This favorable state of things having continued for two or three days, my medical friends deemed it unnecessary longer to continue their attendance. On the fifth day, however, after the operation, the pulse began to rise, the skin to become hot, and the patient to become restless and uneasy. On the sixth day the wound at the bend of arm (from which the stitches had been removed two days previously) was now suppurating freely; the arm itself was very much swollen, and covered with a blush of erysipelatous inflammation, extending from the middle of the forearm to within a few inches of the shoulder. Under the ordinary applications the redness and swelling disappeared in a few days, and the arm returned to its

normal condition. Phlebitis was now found to exist for six inches above the wound, the vein feeling hard and knotted. In the course of ten days after this period all traces of phlebitis had become effaced, the wound cicatrized, and the patient's strength very considerably increased. The stomach had so far recovered its tone as to be able to retain and digest light food, and the patient daily improved in strength and spirits. At the end of three weeks after the operation, she was able to be out of bed for two or three hours at a time. In consequence, however, of sitting up longer on one occasion than usual, some degree of exhaustion was experienced, and this was very shortly followed by a smart attack of the flooding. This was almost immediately arrested by the introduction of the plug, and confinement in the horizontal position for a few days. At the end of a month she was so far recovered as to be able to go to the country, where she has continued gradually to improve.

ART. 129.—*Laceration of the right sacro-iliac Synchronosis during Labour.* By Dr. SCANZONI.

(*Allg. Wien. Med. Zeitung*, viii, 1859; and *Schmidt's Jahrb.*, ix, 1859.)

CASE.—A charwoman, æt. 32, who had on a previous occasion given birth without difficulty to a full-grown child, was seized during her second labour with acute pain in the region of the sacrum. This second labour was one of considerable difficulty, the pains being strong and prolonged, and the child of unusual size, especially in the cephalic diameters; but especial assistance was not necessary. After delivery, the patient was greatly exhausted; she complained also of severe pain in the region of the right sacro-iliac synchronosis and along the back of the thigh, as far down as the knee. Under the influence of morphia this pain was subdued, but the least motion served to bring it back in all its severity. On moving, also, the patient was sensible of a grating sensation in the back part of the hip.

On examination, a long, reddish, and sensitive swelling was found in the region of the right sacro-iliac synchronosis; pain, also, and distinct crepitation was produced in the same locality, by making pressure upon the right ilium and upon the rectal surface of the sacrum or os coccygis. The crepitation and crackling were unmistakable, and these, with the other symptoms and the history of the case, made it evident that the right ilium had separated from the sacrum under the pressure exercised by the passage of an unusually hard and large foetal head through the pelvis. Fourteen days after delivery (June 17) a hard swelling, about two fingers in breadth, made its appearance in the course of Poupart's ligament on the right side; fourteen days later still, this swelling had disappeared under the application of poultices and fomentations. About the middle of July the state of the patient was so far improved that she was able to get out of bed and move about a little, by taking hold of her right knee with both hands, and thus taking off the weight of the body in some degree from the sacrum. At the end of the month the acute pains returned in the old locality, and a large abscess formed in the region of the seat, which abscess had to be opened with a knife. On examination with a sound through the opening thus made, the instrument came in contact with some roughened and exposed bone, but no opening could be found between the ilium and sacrum a month later; the patient, with the exception of a slight halt in her gait, had recovered from this second accident.

ART. 130.—*On the Causes and relative Proportion of Still-births in private Country Practice.* By Dr. R. UVEDALE WEST.

(*Lancet*, Nov. 12, 1839.)

After giving a table in which is shown the results of the whole of his experience of still-births since he commenced practice in 1834, Dr. West proceeds to make the following summary:

"The total of still-births from all causes, as shown in the table given above, is 111 out of 2998 children born; a proportion of 1 in 27. Of these, 50 were putrid at birth, with various special circumstances noticeable; 8 were cases of craniotomy; 7 were cases in which the death of the child was caused by difficult delivery of the head in footling births, the funis being compressed; in 7 cases, where the funis was prolapsed early in the labour, the death of the child was equally caused by compression of that important organ; 3 deaths are explained by *placenta prævia*; 6 by the severity of protracted labours left to the natural efforts; there were only 2 deaths from severe or protracted labour where instruments were used; in 1 case embryotomy was practised to effect the delivery of monstrously-adherent twins, accounting for the death of 2 children; in 2 cases the ovum was expelled entire before my arrival, and the children suffocated or drowned; 2 of the children exhibited deficient development of the head; 1 was dropsical—*anasarcous* and *ascitic*; 4 deaths are explained by profuse hæmorrhage accompanying the labour; 2 by convulsions of the mother during or preceding the labour; in 1 case there was very clear evidence of latent compression of the funis during the labour; 1 death is explained by difficulty of turning in a neglected case of arm presentation; in 2 cases the mothers were either moribund or seriously ill; in 3 of the non-putrid cases the placenta was either putrid or diseased; and in only 7 cases it was not possible to assign a cause. Several of the women are shown to be liable to a recurrence of dead children born.

"The ergot of rye is considered by some to be destructive of the life of the child. For that reason I have thought it right to specify in every case, even in the putrid ones, whether the ergot was or was not given. It results that the ergot was given in 24 cases out of the whole number of 111 children born dead. But as the vast majority of the deaths where ergot of rye had been given are explicable from other causes, I think we may acquit this much-abused drug, and especially so if we study the last list of cases—that, namely, where the 'cause was not manifest.' Let me here explain that I have given the ergot of rye 201 times out of the last 800 cases I have attended. This is a frightful proportion; but never mind. My register stands at No. 2962 at the present date. If the list of 'cause not manifest' be now looked at, it will be seen that the last 4 cases in that list fall within the 800 cases alluded to. The ergot of rye was given in only 1 of those 4 cases; precisely the proportion of ergot of rye for the whole number of 800—1 in 4.

"I have thought it important, in the study of the causes and the frequency of the mortality of children during labour, to insert in my

table the number of each case. It may thus be seen at a glance how far the inexperience of a young practitioner may contribute to an increase of such mortality. Let us, for example, examine the numbers of the cases of craniotomy. It will be seen that nearly all the cases that I was exclusively responsible for fall within the first 1000. How far a gradually acquired ability in the use of the vectis and forceps* may have enabled me to discard this *wilful murder* from my practice, I leave to the judgment of my readers, pointing out at the same time that *pari passu* with what I may call the *abolition of craniotomy*, or, at any rate, the greatly diminished frequency of the practice, the fetal mortality from unassisted protracted labour disappears also from my practice. These are matters for grave consideration, and especially so at a time when the Council of the Obstetrical Society of London is pressing on the attention of the Medical Council the subject of obstetrical education. At present, as far as *practice* is concerned, we are, for the most part, self-educated. I have fearlessly, and without any extenuation, given all the facts of my experience of still-births, as invited by the leading article quoted in the opening paragraph of this paper. It is obvious that nothing but a sense of public duty, and a regard for the interests of absolute truth, can have induced me to parade, as I have here done, the shortcomings of my early career. *Liberavi animam meam.*

"I think that the average of country practices ought not to exhibit a greater proportion of still-births than about 4 per cent."

* "It may assist the reader in the appreciation of my argument if I here state briefly, that I delivered, with the one or the other of those instruments, in the first 1000 cases, 4 times only; in the second 1000, 16 times; and in the third 1000, now nearly completed, 77 times, with the result, as regards the life of the child, shown in the text. And the following extract from the index to my register will illustrate, though, perhaps, more feebly, the advantage of artificial assistance in other circumstances of danger to the life of the fetus than mere protracted labour:

FUNUS PROLAPSED: in 19 cases; in which,

The child born dead: 11 cases, viz.,—

Head presentation; left to nature: 168 B., 726 G., 2400 B.

" " forceps case: 2301* B.

" " difficult turning case: 2683 B.

Feet presentation: 645, 1916, 2057, 2065, 2228. Of which,

Child putrid: 1916 G., 2057 G., 2228 G.

Placenta prævia: 645 B.

Arm presentation; turning performed: 69 B.

The child born alive: 8 cases, viz.,—

Head presentation; left to nature: 1667 B., 2345 G.

" " vectis used: 1643 B.

" " turning performed: 2304 B., 2553 G., 2579 B.

Arm presentation; turning performed: 2281 G.

Feet presentation, with placenta prævia: 1316 G.

CONVULSIONS OF THE MOTHER,

Preceding or accompanying the labour: 2191, 2320, 2729. Of which,

The child born dead: 2 cases, viz.,

Labour unassisted: 2191* B., 2320* B.

The child born alive: 1 case, viz.,

Delivery with vectis: 2729* G.

"It is very probable that, although the mere expulsion of the child might have been easily effected in cases 2504, 2553, 2579, and 2729, if they had been left to nature; yet the children would have been all born dead, if artificial delivery had not been performed."

ART. 131.—*Statistics of the University Lying-in Hospital, Montreal.*
By Dr. ARCHIBALD HALL, Phys. Acc. to the Hospital.

(*British Med. Journal*, Feb., 1880.)

The conclusions to which Dr. Hall arrives, after an examination of 1216 carefully recorded cases, are these:

The mortality of the mothers was as 1 to 114·6 admissions.

The mortality of the infants was to the whole births as 1 to 46·4.

The still-births were to the whole births as 1 to 60·9.

The recoveries in the still-births were to the deaths as 4 to 1.

That the mortality among the mothers occurred chiefly in primiparous women.

That the still-births occurred chiefly with male offspring.

That the chief mortality occurred also with the same.

That the average duration of labour was 7 hours 35 minutes.

That the average time intervening between the rupture of the membranes and the delivery of the child was 2 hours 48 minutes.

That, upon the whole, the labours lasted longer with male than with female infants, and that the principal difficulties occurred chiefly with the former.

That by far the largest proportion of women were confined in their 40th week, or between the 273d and 280th day, thus affording additional testimony to the law upon this point.

That the average weight of the infants was 7lbs. 3oz.

That the average length of the infants was 20·3 inches.

That the average length of the umbilical cord was 19·5 inches.

And that the average weight of the placenta was 1lb. 4 oz.

ART. 132.—*Statistics of 1060 Obstetric Cases.* By Mr. HARRISON.

(*British Med. Journal*, Aug. 17, 1880.)

Does the month of the year, the day of the week, the hour of the day or night, or the state of the moon, exercise any influence on the progress of labour? These are questions to which the following quotation from Mr. Harrison's statistics may help to furnish an answer.

"*Months in the year.*—The labours occurred in the following proportions in the several months:

January	93	April.....	67	July	82	October.....	89
February	68	May	97	August	76	November	91
March	85	June	78	September ...	82	December	92

"November, December, and January, had more than any other three consecutive months. The smallest number occurred in April, and the largest in May.

"Comparing the results of birth with those of conception, we have—

Months of birth.	Months of conception.		Months of birth.	Months of conception.	
January	April	93	July	October	82
February	May	68	August	November	76
March	June	85	September	December	82
April	July	67	October	January	89
May	August	97	November	February	91
June	September	78	December	March	92

"Days of the week.—It was the opinion of the late Mr. Hooper, of this town, that many more children were born in the early than in the later part of the week. The following table confirms this supposition. No doubt it is correct among certain classes, for reasons too obvious to be further insisted on.

Sunday.....	148	Thursday.....	155
Monday.....	158	Friday.....	105
Tuesday.....	150	Saturday.....	136
Wednesday.....	148		

"Hours in the day and night.—Classifying the labours according to the hours in which they occurred, we have the following result :

Hours.	No. of labours.	Hours.	No. of labours.
12 p.m. to 6 a.m.	270	12 a.m. to 6 p.m.	214
6 a.m. to 12 a.m.	268	6 p.m. to 12 p.m.	248

"It is pretty well known that most labours occur in the night ; but I was not prepared to find that the next greater number was from 6 to 12 in the morning.

"State of the Moon.—The following is an arrangement of the labours according to the state of the moon :

		Labours.
New Moon	{ Day of change.....	43
	{ Remaining period	193
		236
First Quarter ...	{ Day of first quarter	37
	{ Remaining period	215
		252
Full Moon	{ Day of full moon	35
	{ Remaining period	218
		253
Last Quarter ...	{ Day of last quarter	20
	{ Remaining period	239
		259

"Has the moon anything to do with labours? 'It is a prevalent opinion,' says Dr. Lardner, 'that births occur more frequently in the decline of the moon than in her increase. This opinion has been tested by comparing the number of births with the periods of the lunar phases ; but the attention directed to statistics, as well in this country as abroad, will soon lead to the decision of this question.'

"The circumstance that gave rise in my mind to such an inquiry was, that our esteemed associate, Mr. Workman, when in an extensive country practice, discovered that he was not only deprived of his rest, but also of the light of the luminary in question. The table confirms Mr. Workman's experience. I do not mean to decide whether, in my cases, the moon was a mistress or an agent, nor whether the conclusion is legitimate or the coincidences fortuitous. I do not mean to go in with the Greenlanders, 'who imagine that the moon visits their wives now and then ;

that staring long at the full moon will make a maid pregnant.' (Dr. Laycock.)

"Perhaps there is sufficient in the subject to merit further inquiry; present results it would be equally unwise to build upon, and unjust to doubt."

(B) CONCERNING DISEASES OF WOMEN.

ART. 133.—*Submucous injection as a cure for the Toothache of Pregnancy.* By Dr. HORATIO R. STORER.

(*The Dental Cosmos*, Nov., 1859.)

CASE.—A. Z—, æt. 22, applied to me for treatment early in May last. Patient had suffered for several weeks from severe neuralgic pain throughout the left half of the upper jaw, at times lancinating in its character, at others more dull, but never wholly absent. The general health was decidedly affected, as evidenced by the state of the circulatory, digestive, and nervous systems. The teeth, on inspection, were all sound; there was no heat or swelling of the gums, no tenderness or increase of pain on pressing them.

Anodynes, both local and general, refrigerants, emollient poultices, and counter-irritants were successively resorted to, without benefit. After much solicitation, a tooth was extracted; the patient remained unrelieved. On the following day, no change for the better having occurred, ten drops of the Edinburgh solution of the bi-meconate of morphia were injected beneath the mucous membrane of the gum; the pain ceased instantaneously, and from that moment to the present, a period of nearly five months, there has been no return of the malady.

I am not aware that any writer has hitherto proposed to prevent, by submucous injection, the extraction of teeth during pregnancy—and thereby to prevent abortion, resulting either from that operation or from the neuralgic pain; not even does the induction of mere local anæsthesia, by any of the numberless modes attempted, seem to have been thought of for this special purpose. Apparently, the only instances as yet recorded of the injection of opiates into the substance of the gum are by a dentist of Edinburgh, Mr. Smith; and the operation with him was for the purpose of producing temporary local anæsthesia during the extraction of teeth, not for the purpose of preventing their extraction by the cure of neuralgia.

ART. 134.—*Some remarks on Mammary Inflammation and Abscess.*

By Dr. M'CLINTOCK.

(*Dublin Medical Press*, May 2, 1860.)

During the last five years fifty-four cases of mammary abscess have been treated in the chronic wards of the Lying-in Hospital. In *ten* instances *both* breasts were affected; in *eighteen* the right; and in *twenty-six* the left breast was exclusively engaged.

The great preponderance of cases of mammary abscess on the left side is somewhat remarkable, especially when taken in connexion with the fact, that other puerperal lesions evince a similar partiality for the same side of the body. Can the position on the left side during labour and delivery have anything to say to it? This question we cannot

positively answer; but it is curious that in the practice of Velpeau at Paris, where all women, as you know, are confined on the back, abscess occurred with equal frequency in right and left breasts.

A very large proportion of the fifty-four patients had some form of sore nipple previously to the occurrence of inflammation of the gland. In nearly all of them the inflammation came on days or weeks after the patient had left the hospital, or had ceased to be under medical care. On a few occasions, the inflammation of the breast was observed to supervene immediately and directly upon the ulceration or fissure of the nipple. The great danger, in fact, to be apprehended from sore nipples is mammary inflammation, and this may be considered imminent when the base of the nipple becomes hard and tender. Poulticing the nipple and giving it perfect rest are the best means of preventing the extension of this inflammation to the substance of the gland.

Let it not be supposed that the author regards this as the only cause of mastitis. Far from it; but he believes it to be a very influential and a very frequent one. The popular notion is, that retention of the milk and the consequent distension of the breast is, in almost every instance, the cause of the inflammation; and by the great mass of practitioners the same notion is too exclusively held.

This idea may, Dr. M'Clintock thinks, be regarded as the last lingering fragment of the doctrine so strongly held by Puzos and the leading obstetric authorities of his day, and even later, which ascribed many puerperal diseases to the morbid action of the milk. Hence, puerperal insanity was designated *mania lactea*; secondary pelvic inflammation, or pelvic cellulitis, was a *dépôt lacteux*; the effusions into the belly in puerperal peritonitis were the curd and serum of the milk, and phlegmasia dolens was the "milk leg" of this class of pathologists, whom Meigs, with contemptuous sarcasm, calls by the name of "the milk-men."

The author has very rarely known inflammation and abscess to result from distension of the breast alone, and where there was no irritation of the nipple nor abscess in the breast before. Neither does he recollect ever seeing mammary abscess in a woman whose child was dead born; or supervening upon the death of a nursling, where no other exciting cause of inflammation was present. And yet in both these cases the gland is unavoidably subjected to considerable distension. Upon this point Velpeau states: "Attentive consideration of the fact shows in the most unquestionable manner, that women who nurse are more frequently affected with abscess than those who do not."

The bearing of this upon practice is obvious enough. Actuated by the notion that retention of the milk is the grand source of mischief, we find nurses and patients, and occasionally even doctors, using every means, natural and artificial, "to draw the breasts," and no ways deterred from doing so by the presence of a sore or inflamed nipple; indeed this is always considered by patients as an additional reason for the more vigorous employment of these exhaustive measures, and the natural effect of them is to ensure the occurrence of what is so much dreaded. The author has no objection to rubbing or suction

of the breasts to relieve or prevent over-distension, provided the nipple be not sore; if this be the case, however, our first care should be to give it perfect rest, as there is more danger of inflammation extending from the sore nipple, than originating in the distended gland; and as for the distension of the breast with milk, good hand-rubbing, and the application of the cere-cloth, will seldom fail to relieve it. Before ordering a breast to be rubbed, it is of the greatest importance to distinguish the hardness of simple lacteal distension, from the hardness of incipient inflammation. Through inattention to this, the author has seen bad abscesses produced which might have been prevented.

The external employment of extract of belladonna has been much praised of late for its power of promoting the absorption of the milk. In Dr. M'Clintock's opinion, however, its efficacy in this way is little superior to the common cere-cloth, and this opinion is formed from the experience of a considerable number of cases where the treatment was submitted to the fairest test possible—viz., one breast of the patient was covered with the ordinary cere-cloth, and the other breast was well coated with extract of belladonna. The remedies were thus fairly tried, and in only one or two instances was there any perceptible difference in the effect of the two remedies; and in these the difference was very slight. The patient herself thought the "black breast" was a shade softer than its fellow which had been enveloped in the cere-cloth. It might be attended with risk to the child to use the belladonna, if the woman were still suckling.

Velpeau, speaking of chaps or fissures of the nipple, says that the disease may extend into the substance of the breast through the lactiferous tubes, or into the neighbouring areolar tissue, to such an extent that more than one abscess of the breast has been caused in this way. I think he might have gone further, and said that very many abscesses have thus originated. This author does not seem aware of the important part which sore nipples play in exciting mammary inflammation; for in answer to the question, "Should a woman with fissured nipples cease from suckling?" he says, "as a general rule, No;" but he subjoins this prudent advice, "if the disease be obstinate, if the woman continue to be much affected, and the child get ill, or fall away, it is better to resort to a wet nurse, since that is the *only measure* which can restore quietness and health to both mother and child."

In their 'Practical Midwifery,' Dr. Hardy and the author have laid stress on this same point, and all the subsequent experience of the author confirms him in the opinion there expressed. The resolutive treatment of mammary inflammation is admitted to be very unsatisfactory, rarely effecting the desired end, even though undertaken at the very onset of the attack, and carried out with vigour. After free purging, the best internal treatment is believed to be the tartarized antimony in nauseating doses, as recommended by Dr. Beatty. In the way of topical treatment we have a choice between leeching, hot fomentations, mercurial ointment, and cold lotions; and after some experience with each of these, Dr. M'Clintock feels bound to say that the cold lotion has more frequently succeeded than any of the others. At the same time he adds, that the proportion of cases in which

resolution has been brought about by its means is very small. The lotion he has been in the habit of ordering is composed of muriate of ammonia dissolved in about equal parts of vinegar, water, and spirits of wine. Whether the sal ammoniac possesses any peculiar or discutient property in these cases he does not pretend to say. Mr. Tuson, however, speaks of it in very favorable terms, and says he has seen it disperse inflammatory swellings of the breast, even when the presence of matter was quite palpable.

Notes of cases are alluded to where, under the use of the above lotion, resolution took place after the formation of a phlegmonous tumour of the breast, attended with an erythematous blush on the surface, and the usual pain, tenderness, and febrile action of acute mastitis. In nearly every instance, not excepting the unsuccessful ones, patients have felt a considerable mitigation of the pain by the employment of the cold lotion. It is but proper to add, that in two instances suppuration had unquestionably taken place; yet under the use of the lotion the matter was entirely reabsorbed. One of these patients had an abscess not long before in the same breast. It is rare for mammary inflammation to arise before the fifth or sixth day after parturition; but if it did, the author would not, under these circumstances, employ the cold, as metastasis might take place to the uterus. For the same reason, any treatment that would "repel the milk," or rather repel the blood from the mammary gland, is not prudent within the same period *post partum*.

With regard to the exact time for opening mammary abscesses, there exists a difference of opinion among surgeons; some recommending it to be done as soon as the presence of matter is established, whilst others advise us to wait until the abscess is pointing, or the matter immediately beneath the skin. "Perhaps," says Cooper in his 'Surgical Dictionary,' "as a general rule, the surgeon should never wait for an abscess of the breast to approach the surface, but make an opening as soon as the slightest degree of fluctuation is perceptible; for if this be not done, and the abscess is not very superficial, the matter will spread and form sinuses in different directions." On the same point Sir A. Cooper thus speaks:—"If the abscess be quick in its progress, if it be placed on the anterior surface of the breast, and if the sufferings which it occasions are not excessively severe, it is best to leave it to its natural course. But if, on the contrary, the abscess in its commencement is very deeply placed—if its progress be tedious—if the local sufferings be excessively severe—if there be a high degree of irritative fever, and the patient suffer from profuse perspiration and want of rest, much time is saved and pain avoided, by discharging the matter with a lancet."

Velpeau says an early opening is useful in subcutaneous abscess, less advantageous in the deep-seated or submammary variety, and may even prove injurious in the glandular or parenchymatous abscess, which is the only kind where there is some advantage in not anticipating, but in giving time for the formation to open itself, or at any rate in opening them merely by puncture.

During an experience of nine years at the Lying-in Hospital, the rule of *late puncture* was the one almost invariably followed, and in

every single instance with the most satisfactory result. It has been supposed that by delaying to evacuate the abscess, its size would of course be increased, and that consequently the obliteration of its sac would be proportionately slow in taking place. In answer to this objection the author says that his experience does not at all warrant such an apprehension. Nay more, the most rapid cures he has seen after lancing the breast were cases where the matter was so near the surface that ulceration was on the point of taking place, and the abscess had attained a very great magnitude.

Though advocating, as a general rule, the delayed opening of the abscess, still Dr. M'Clintock does not go so far as to say it should never be departed from; for in some instances, especially where the collection is sub-mammary, it may be expedient to make an early incision on account of severe pain and constitutional irritation, or to prevent the burrowing of the matter. The point to select for puncture should be as remote as possible from the nipple, so as to lessen the risk of its retraction, which but too surely takes place when the opening, whether natural or artificial, is within the areola.

The practice of strapping or compression of the breast, which MM. Trousseau and Contour were the first to introduce, was strongly recommended by them in every stage of mammary inflammation. This precept is, perhaps, too universal, and leads one to expect too much from the agent. Of its great utility *after the evacuation of the abscess*, and the *subsidence of surrounding inflammation*, the author speaks in the strongest terms. When so employed, he has always found it a most admirable means of checking the discharge, and obliterating the sac of the abscess. Upon this point the result of his experience is fully corroborated by that of Velpeau. "Notwithstanding its unquestionable efficacy," he writes, "compression can, however, scarcely be employed at all in all cases of pure and simple inflammation of the breast, nor in abscesses which are still closed. . . . It is more particularly where the pus has found an exit that compression is useful. After the opening of an abscess, more than any other method, it permits of our bringing the edges of the wound together, so as to promote its cicatrization, and by its assistance we sometimes succeed in completely curing the largest formation in the course of two or three days."

Of the lacteal or lactiferous tumour, spoken of by Sir A. Cooper as occasionally forming in the breast after delivery, and requiring to be opened, Dr. M'Clintock has not seen a single example, and on a very few occasions has he seen milk coming away in the discharge from an abscess.

Only one example has fallen under his notice in which he felt satisfied the abscess of the breast was purely *symptomatic*. In this instance, it succeeded to uterine phlebitis. An enormous swelling, attended with great pain, and some discoloration of the skin, formed in the upper part of the right mamma, extending upwards to near the clavicle. On dissection, an immense quantity of unhealthy purulent fluid was infiltrated throughout all the structures of the part, and even permeated their tissues. In strict nosological nomenclature, then, this was a diffused symptomatic sub-mammary abscess.

These remarks refer to cases of mammary inflammation and abscess *subsequently* to delivery. The same lesions may, however, affect the breast of the pregnant woman, and of such he has seen many examples occurring at the third month and upwards.

Denman has shrewdly remarked that the state of pregnancy, though not exactly one of disease, yet borders very closely on it. This observation is applicable to every organ sympathetically or directly influenced by conception. The breasts, among others, become the seat of increased vascular and nervous activity, and hence a very trifling external injury is sufficient to induce serious inflammation.

When this arises spontaneously, we are to explain its occurrence, not by a retention of milk or obstruction of the lacteal ducts, but rather by supposing that the hyperæmic condition of the gland, which is a normal condition at this period, has gone too far—has exceeded the physiological limit—and merged into actual phlogosis. *Ante-partum* abscesses do not present any notable difference in their symptoms or course from those taking place *post-partum*, except that they are, perhaps, more frequently situated in the *lobules* of the gland.

When allowed to burst of themselves, the author has generally observed that they did so by two or more separate openings. If occurring towards the latter end of gestation, it may be found impossible to get the abscess to close till after delivery. In cases of an earlier formation the abscess has completely healed long before the setting in of labour, and with a little extra caution the woman has been able to suckle from that breast, though, generally speaking, a breast that has been the seat of inflammation and abscess is more likely to be affected with the same again, on the occasion of next lactation.

ART. 135.—On the Influence of Tropical Climates upon Inflammatory Affections of the Womb. By Dr. TILT.

(*Lancet*, Jan. 21, 1860.)

Proceeding to investigate the etiology of uterine disease amongst Europeans in tropical climates, Dr. Tilt takes India as an example, and points out how, even if the menstrual function had been previously regular in young women going out to India, it becomes irregular from travelling and the sea voyage; how, without passing through a period of repose, on arriving in India, and before the menstrual function had had time to "right itself" these emigrants are launched into the fatigues and gaieties of society, often marrying at too early an age, and even before menstruation had become regular. Dr. Tilt observes that, little accustomed to the heat of India, the inexperienced European often imprudently exposed herself, during the menstrual period, to the raw, chilly night air, or to the north-wester, or made too frequent a use of cold water at that time. The pathology of tropical climates is represented as being principally abdominal, Europeans becoming occasionally subject to liver disease and dysentery, which tend to produce uterine inflammation, even when they occur in temperate climates. The frequent liability of the European

to some form of intermittent or remittent fever is insisted on, as well as the fact that these affections sought out the weakest organ, increasing its tendency to congestion and inflammation. Another cause of uterine inflammation is found in that anæmia and intense debility which usually follows a prolonged residence in a tropical climate.

The progress of inflammation of the womb in Europeans, during their residence in tropical climates, is described as unusually rapid, owing to the patients remaining subject to those climatorial influences which had produced the disease.

The pathological conditions of those who return to Europe from the tropics on account of uterine disease are next inquired into. The inflammatory lesions, as well as the general symptoms, are represented as unusually severe, considering the duration of the complaint. It is stated that, even after their return to England, the march of uterine inflammation is often complicated by partially subdued tropical complaints, such as ague, remittent fever, liver derangement, and chronic dysentery. These complications are spoken of as interfering with the treatment of the case, and protracting it much beyond its usual duration; the uterine inflammation requiring surgical treatment, in accordance with the principles laid down in the author's and in Dr. H. Bennet's work on 'Uterine Inflammation,' without, however, neglecting to take into serious account those complications which frequently arise, or that deep-rooted debility which seems to be sometimes the only reason why the patient will not rally, although judiciously treated.

Dr. Tilt concludes by observing that he had sometimes seen young women taken to India in whom the menstrual flow was so irregular as to preclude the possibility of health being long preserved in a tropical climate; that he had attended patients whose health had been ruined by too long a stay in India, after uterine disease had become severe; and others who, having returned to India before they were quite cured of an inflammatory affection of the womb, were soon obliged to come home on account of a severe relapse of the uterine complaint; and this leads him to recommend the following practical rules relative to the prevention of uterine inflammation amongst Europeans in tropical climates:

1. Those in whom the menstrual flow is habitually morbid in a temperate climate should not settle in a tropical region.
2. Those who have frequently suffered from inflammatory uterine affections in a temperate climate should not settle in a tropical region.
3. Those who become severely afflicted with uterine disease in a tropical climate should remove to a temperate one.
4. Those who come to Europe for the cure of any inflammatory affection of the womb from a tropical region should not return to it until some months after the uterine affection has been cured.

ART. 136.—On Creasote Vaginal Injections in certain forms of Puerperal Fever. By Dr. MACKENZIE.

(*British Med. Journ.*, March 3, 1860.)

For several years Dr. Mackenzie has used with advantage creasote injections, varying in strength from $\text{m viij}—\text{xij}$ in a pint of thin mucilage, in those forms of puerperal fever which originate in the absorption of inflammatory or other vitiated secretions from the maternal passages. A case, treated in 1853, is given in illustration.

CASE.—A young woman was admitted with symptoms of labour into the Paddington Infirmary, on June 26th, 1853. The pains had commenced in a decided form about 2 p.m.; but she had had slight occasional pains for some days. On examination (at 7 p.m.), the conjugate diameter of the pelvis was found much diminished by an anterior projection of the promontory of the sacrum. The head appeared to be presenting, but high up; and the os uteri was dilated to about the size of a shilling. At 6 a.m. the next day (June 27th), the labour had not materially advanced. The pains had returned for a time, and had been strong and regular; but they had again ceased. Whilst, however, the presentation had not advanced, the os uteri had become more developed, and was now soft and relaxed. It being believed that the contraction of the brim, which was under three inches, was too great to admit of the descent of the fetal head, craniotomy was performed in a few hours afterwards. The perforation of the head was easily effected; but its extraction was extremely difficult. It was only after repeated efforts that delivery was effected. The uterus subsequently contracted well. The abdomen was then bandaged, and a full opiate was administered. The next morning (June 28th), the patient was found to have slept a good deal; but she complained of pain and soreness in the hypogastric and left iliac regions; and the abdomen generally was tumid and tender. She was ordered a dose of castor oil and turpentine immediately; and five drops of tincture of opium, with five grains of sesquicarbonate of ammonia, every four hours. The vagina was also directed to be well syringed with warm water; and afterwards an injection, containing eight minims of creasote, diffused by means of gum tragacanth in a pint of water, was administered. On the 29th, she was reported to have passed a bad night. The countenance was flushed; the skin was hot; and the pulse frequent and strong. The bowels had acted three times. A saline antimonial mixture was substituted for the ammonia, and a warm fomentation was placed over the abdomen. The creasote injection was repeated. On the 30th, she had passed a good night; the abdominal tenderness was less; and the uterine tumour was smaller and softer. The bowels had acted once; the breasts were discharging milk freely; and the fever was less. The treatment was continued. On July 1st, she had been a good deal purged, but was otherwise doing well. She complained rather of weakness than of anything else; but the pulse was good, the skin moist, and the uterine tumour was subsiding favorably. The saline mixture was omitted; five grains of sesquicarbonate of ammonia were given every four hours. The creasote injection was continued with twelve instead of eight minims. On July 2d, in the morning, she was extremely hysterical; but, by the administration of a few doses of assafoetida, the hysterical symptoms disappeared. The creasote injection was again given, increased to sixteen minims. On July 3d, the patient was better; and from this date to the 14th, when she took her discharge, no unfavorable symptom

appeared. Her convalescence was in every respect satisfactory, and she left the infirmary apparently quite well. In the use of vaginal injections after childbirth, it is important to avoid all risk of exposure of the patient to cold. Hence a suitable slipper should be employed; and the injecting apparatus should be provided with a tube sufficiently long to be conveyed under the bedclothes without occasioning any exposure of the patient's body.

ART. 137.—*Puerperal Convulsions successfully treated by subcutaneous injections of morphia.* By Dr. SCANZONI, of Wurtzburg.

(*Bull. Gén. de Ther.*, Mar., 1860; and *Edinb. Med. Journal*, May, 1860.)

Since the attention of the medical profession was first directed by Dr. Wood, of Edinburgh, and more lately by Hunter and Béhier, to the advantageous effects of subcutaneous injection, especially of narcotics, Professor Scanzoni has employed this method with success in numerous cases of neuralgia, hyperæsthesia, &c.; but he attaches especial importance to the following case of puerperal convulsions, because it seems to prove, in accordance with the views laid down by Hunter, that the subcutaneous application of narcotic agents furnishes a means of acting on abnormal irritations of the brain with greater rapidity and certainty than the administration of the same remedies by the mouth. It will, doubtless, be admitted that opium, and its different preparations, deserve the first place in the treatment of puerperal eclampsia. In his own experience, the observation of a large number of cases has convinced Professor Scanzoni that a kind of intoxication produced by opium leads with more certainty to a favorable termination than any other means recommended in this terrible disease. But, unfortunately, it is not always possible to administer a sufficient quantity of opium or morphia; sometimes the comatose condition of the patient, at other times the rapid succession of paroxysms, prevents administration by the mouth; and opiate enemata are occasionally rejected as soon as they are received. The subcutaneous injection, however, supplies the means by which these difficulties may be overcome, and a sufficient quantity of opium introduced into the system to render its effects certain. Numerous experiments have convinced the author that, although the effect of this method is not always persistent (the neuralgiæ, for example, are not always cured by it), yet there are constantly produced—within a very short time, often a few minutes, after the injection—certain phenomena, which can leave no doubt as to the action of the opium upon the brain. Such symptoms are drowsiness, giddiness, headache, sickness, feeling of constriction in the throat, even vomiting, and depression; or, if the dose is large, somnolence. These facts, taken along with the known effects of the subcutaneous application in delirium tremens, mania, chorea, tetanus, &c., induced him to try the same treatment in puerperal convulsions, and with the most satisfactory results. After three injections of meconate of morphia there occurred only two attacks in nine hours, while previously there had been three attacks in an hour and three quarters. This diminution of the convulsions after the injections is so much the more remarkable,

since experience has shown that, as a general rule, the paroxysms become not only more violent, but follow at shorter intervals as the labour advances. And although the author does not imagine that he has discovered in the subcutaneous injection an infallible panacea for this dreadful malady, he is of opinion that the following case should induce physicians to give this means a trial:

CASE.—D—, æt. 21, primipara, strong and robust, was brought into the lying-in ward at a quarter to eight o'clock on the morning of June 8th, 1859. Labour had commenced in the night, and she had been seized with nervous paroxysms and loss of consciousness; no account was given of the nature of the attacks; the patient remembered nothing of what had occurred during the night. The whole body, and especially the lower extremities, were œdematous; on the right side the tongue showed marks of being bitten by the teeth; the uterus corresponded to the pit of the stomach, and seemed sufficiently consistent; sounds of the fetal heart distinct. On examination, the os uteri was dilated to the size of a sixpence, the bag of waters was partly formed, and the head presented; the urine was very albuminous, and exhibited under the microscope numerous fibrinous cylinders. At eight o'clock she was seized with a second convulsive attack, which was of a very marked character, and lasted for some minutes. On recovering consciousness, she could answer questions, although slowly. A third attack succeeded at a quarter to nine, a fourth at a quarter to ten, a fifth at a quarter to twelve, and a sixth at five o'clock.—the last the most violent. After the fourth paroxysm consciousness did not return, and the breathing became stertorous. At ten o'clock she was bled to about eight ounces, an enema with twenty-five drops of laudanum was given, the body was put into a warm bath, while cold irrigation was applied to the head. As opium could not be administered internally, a solution of the meconate of morphia was now, at three different times, injected under the skin, the quantity amounting in all to about ten grains (75 centigrammes) of opium. The labour advanced very slowly. At three o'clock next morning the membranes burst; the os dilated to the size of a half-crown; the head still high up above the brim; sounds of the heart very distinct. After this period the dilatation went on more quickly; at seven o'clock the os was larger than a crown piece, very extensible and dilatable, the head high up and immovable; complete loss of consciousness, profound coma. In these circumstances, which left little hope of saving the patient, and in spite of the high position of the head, and the incomplete dilatation of the os uteri, it was decided to employ the forceps. Their application was by no means easy, but the extraction presented no difficulty. After a few tractions, a fetus was born, which breathed freely at first, but soon began to moan vigorously; the placenta followed. During the operation there was no paroxysm. Some wine and ten drops of tincture of amber and musc were now given to the patient, which revived her a little, but did not restore consciousness. At eleven o'clock, a seventh attack came on, but was slight and short; after which she became excited, and tried to escape, but towards morning she grew calm. At nine in the morning she could answer questions put with a loud voice. During the whole day she remained like a drunk person; pulse 120. The musc was stopped; nothing but lemonade given. Towards evening the abdomen was somewhat painful. During the night there were several slight attacks of mania; she constantly attempted to escape. In the morning she answered rationally; pulse 100. The œdema had diminished, the abdomen was still tender; there was difficulty of breathing; and numerous sibilæ, fine and coarse, in the lungs. Warm bath, lemon-

ade, expectorants, were prescribed. In the evening the patient was completely herself again; pulse 132. June 11th and 12th.—She slept sound during the night, the expectoration becoming easy, and the pain of the abdomen relieved by fomentations and poultices; pulse 120; the urine contained little albumen, and no fibrinous cylinders. June 13th.—Good condition; œdema gone, abdomen soft; some incontinence of urine during the night was relieved by leaving in a catheter. All medicines were now suspended; the patient was put on good diet; and ordered to take every morning a glass of chalybeate mineral water. On the 17th there was no albumen found in the urine; and on the 21st the patient left the hospital with her child, being advised to continue the use of steel for a considerable time.

ART. 138.—*On Granulations of the lining Membrane of the Uterus.*
By Dr. JAMES TRUDEAU, of New Orleans.

(*North American Med.-Chir. Review*, January, 1860.)

This affection, though frequent in the Southern States of the North American Union, is comparatively rare in the Eastern States. It is also comparatively rare in the North of Europe. Uterine fungosities are true *fibroplasmæ*, located in the neck and cavity of the uterus, and are found in two forms.

1. Small tumours, with a wide base, springing directly from the mucous membrane; in size varying from that of a pin's head to that of a strawberry, the larger being often pediculated. The surface is rough and irregular, of a soft consistency, the growths being easily detached. The colour varies from pale pink to red. This variety is generally found near the implantation of the fallopian tubes, and is designated by the name of *cellulo-vascular vegetations*.

2. Pediculated vegetations, smaller than the preceding; of a grayish colour, of a greater density, elastic, and smooth. Generally found in the neck and inferior segment of the uterus. These are not readily detached, and are the *cellulo-fibrous vegetations*.

According to M. Charles Robin, these vegetations consist of a hypertrophy of the mucous membrane, with numerous cells, fibro-plastic elements, and an increased vascularity for the first variety. The second has the same structure, with fewer vessels, and is protected by a layer of epithelium. They are both sometimes found together, and sometimes are observed at the orifice of the *os uteri*, bulging out of the canal.

The symptoms consist at first in an increased menstrual discharge, which soon becomes a profuse hæmorrhage, succeeded by watery leucorrhœal effusions. The latter is sometimes very painful. Dysmenorrhœa occurs; the menstrual periods encroach on each other, causing the patient to be constantly flooding; the digestive functions are disordered, with the accompanying train of symptoms of dyspepsia; sharp pains are felt at the lumbar, sacral, and hypogastric regions; or there is a painful spot in one of the iliac regions, extending to the corresponding limb. The patient loses flesh rapidly; the features assume that peculiar cast of countenance observed in many uterine disorders (*facies uterina*); the skin loses its softness and bril-

liancy; the eyes are sunk deeper in the orbit, and surrounded with a bluish circle; the extremities are always cold, even during the warmest weather. Examination by touch shows an enlarged uterus, and softness of its walls. The vaginal portion of the neck is often hypertrophied, and softer than usual; the canal much dilated. The speculum discloses an open os, discharging a thick, tenacious, transparent, yellowish-white mucus. The neck is congested, and dotted with minute superficial excoriations. The sound is easily introduced when the disease has extended to the cavity of the womb. Otherwise, much difficulty is experienced in passing it. When introduced, it can be moved in any direction, showing the increased capacity of the organ. The introduction often causes hæmorrhage. There is no pathognomonic symptom, yet, with care, the differential diagnosis may be made. Uterine polypi may simulate this affection, yet an error of diagnosis in this respect would be of no importance, as the treatment is the same. In a case of simple menorrhagia, the hæmorrhages, patulous condition of the os, and softness of the vaginal portion of the neck, may induce the belief that they are due to the presence of fungosities. In both dysuria and this affection there are severe lumbar and hypogastric pains. In menorrhagia the hæmorrhages occur at the menstrual periods; in the other affection, they are almost continuous. The leucorrhœa is generally confined in the former to a few days before and after the periods; it is constant in the latter. In the former, the cavity of the neck is pale; in the latter, it is red and congested. The affection progresses slowly; the prognosis is generally favorable, and only otherwise from complications. M. Nélaton says this affection is observed in females who have passed the prime of life; seldom before the twenty-fifth year, and oftener at thirty-five. M. Richet confirms this (which is in perfect concurrence with our own observations), and remarks further, that it can always be traced to a confinement or miscarriage.

ART. 139.—*On the use of Arsenic in Menorrhagia, Leucorrhœa, &c.*
By Dr. ARTHUR P. BURNS.

(*Amer. Jour. of Med. Sciences*, Oct., 1839.)

"I desire," says Dr. Burns, "to impress upon the profession my conviction of the great powers of arsenic in menorrhagia, leucorrhœa, hæmorrhage in threatened abortion and after delivery, and excessive lochial discharge. I have been long in the habit of using it in those affections, and it has never failed in my hands to relieve the most obstinate cases. My usual plan of treatment has been, in menorrhagia, if called to the patient during the hæmorrhage, to give immediately ten to twenty drops of Fowler's solution, according to the severity of the case, and repeat it in doses of ten drops every fifteen to twenty minutes, until the hæmorrhage is checked. I have never had occasion to push it to a dangerous amount. Care must be exercised in its administration, as it will entirely suspend the menstrual secretion. I then give five to ten drops, three times a day during the menstrual period, and in the interval, three to five drops, three

times a day. In leucorrhœa, I give three to five drops of Fowler's solution, three times a day, and steadily persevere in the use of it until a cure is effected; sometimes I use injections, counter-irritation to the sacrum by blisters, &c. In either affection, if there is debility, I use Tinct. Cinchona Comp. ʒiij; Tinct. Cantharis ʒij, M. Dose, a teaspoonful, three times a day; sometimes add Spts. Æther Nit. and Tinct. Opii Camph."

Two cases are given in illustration.

CASE 1.—An unmarried lady, æt. 23; anæmic; menstruated at 15. Excessive menorrhagia and uterine leucorrhœa from the beginning, which continued in spite of all the remedies used by various physicians uninterruptedly, until she came under my care. She was a great sufferer from spinal irritation (sympathetic), neuralgia, and intense agony during menstruation. The menstrual periods were very irregular, varying from one to three weeks, the slightest exciting cause being sufficient to establish the flow, which had continued at times for weeks without intermission. I put her upon five drops of Fowler's solution, three times a day, increased to ten drops *ter die* during the menstrual period, vaginal injections, blisters to the sacrum, and the tonic mixture above; a steady perseverance in the remedies for four months effected a cure. She now has no menorrhagia, no leucorrhœa, no spinal irritation, and but rarely an attack of neuralgia, which was before a constant attendant. This case would not bear iron in any form.

CASE 2.—An unmarried lady, æt. 25; plethoric; menstruated at 14. Menorrhagia and excessive vaginal leucorrhœa from the beginning; the menstrual periods were irregular, and at one time the flow continued uninterruptedly for eight months, when the case came under my care. She menstruated irregularly every second or third week, with exhausting leucorrhœa in the intervals, causing an intolerable feeling of dragging down, and pain in the back upon the slightest exertion. Ordered ten drops of Fowler's solution, three times a day, during the menstrual period, and five drops three times a day, in the interval, with cold ablutions, night and morning, to the sacrum, pubes, &c.; the treatment was continued for three months. She now menstruates every fourth week, and has no leucorrhœa.

"I may state here," Dr. Burns continues, "that I have persevered for months, continuously, in the use of the remedy without any unpleasant effects. I know of no remedy so effective and so prompt in arresting hæmorrhage in threatened abortion; it seems to suspend at once the contractions as well as the hæmorrhage. I usually give twenty drops for the first dose, and ten drops every fifteen to twenty minutes thereafter, until the hæmorrhage is checked. In hæmorrhage after delivery it is equally efficacious, used in the same manner and doses. In excessive or long-continued lochial discharge, in doses of five to ten drops *ter die*, in conjunction with the tonic mixture, it acts promptly and efficaciously. I have had cases that had resisted other treatment to yield speedily to this. In one case, in which the discharge continued for weeks after the usual time, with occasional hæmorrhages, resisting other treatment, it yielded promptly to ten drops *ter die*, and the tonic mixture. Its *modus operandi* I am unacquainted with. That it does not act by inducing uterine contractions appears certain, as it will suspend them in threatened abortion, and, I believe, in large doses, would suspend them at the full period

of gestation. I believe it to be a general hemostatic of great power, though I have never had a fair opportunity of testing its powers, and equally as efficacious in hæmoptysis, &c., as it is in menorrhagia."

ART. 140.—*On the suppression of Chronic Metritis during Pregnancy, and its reappearance after delivery, in its acute form.* By Dr. E. NOEGGERATH.

(*New York Journal of Medicine*, Sept., 1859.)

For the last three or four years Dr. Noeggerath's attention has been directed to the very interesting question, whether pregnancy occurring in a woman affected with chronic metritis (engorgement, infarctus) would be beneficial to the patient or not. From these researches he has come to certain conclusions which are entirely contradictory to the views entertained by our best authors on uterine pathology.

Most authors do not mention the subject at all, while those who do are induced to attribute to pregnancy a beneficial effect. Dr. Kiwisch's words on this subject are as follows: "In many instances a conception, which may even occur in far advanced cases of engorgement, has had a favorable influence upon the course of the disease." (See '*Klinische Vorträge*,' p. 549.) Dr. Scanzoni's work '*On Uterine Diseases*' contains the following on page 146: "The most favorable chance for a perfect cure of chronic metritis may present itself by a new pregnancy and consequent puerperal state, during which the inflammatory deposits may undergo the same process of retrograde metamorphosis and alteration, which occurs in the elements of the uterine tissue itself during the time of its involution." While thus our German authors of the first standing seem to attribute a favorable effect to pregnancy upon chronic metritis, none of the English or American authors (Ashwell, West, Meigs) seems to have paid any particular attention to the subject, with the exception of Dr. Bennet, whose views the author finds occasion to mention more particularly below. Contrary to what is generally believed, one of the latest French authors, Dr. Aran, remarks on page 532 of his work '*On Diseases of the Womb*,' "*Malheureusement la grossesse laisse presque toujours les malades dans un état plus grave sous le rapport de leur affection utérine.*" Bequerel, who has issued the most recent work on uterine pathology, is satisfied with a verbatim translation of Dr. Bennet's views on the subject, as the author does not seem to have formed an opinion of his own.

From an analysis of our literary sources, it appears that the subject has met with very little attention by the profession, and that wherever an opinion has been pronounced it is done in a few words and void of real value, because not based on observations. But the question itself is of such practical value, as will be proven hereafter, that we are the more astonished to find that so very little has been done in the investigation of this question.

The course of chronic metritis during pregnancy is not one and the same for all cases, but varies according to circumstances. A woman suffering under this disease may complete her full term, or may she

miscarry at an early month. This latter accident is, no doubt, the most frequent; while, on the other hand, the greatest number of abortions has its cause in the presence of a chronic metritis. If pregnancy proceeds uninterrupted, two things may happen; the inflammatory action goes on undisturbed, or it comes to a perfect standstill to be excited to its acute stage immediately after parturition. In the first instance, *i. e.*, where the disease is going on uninterrupted, we have full evidence of its presence in the pregnant woman. Its characteristics are the pains in the lower part of the abdomen and back, the uninterrupted muco-purulent discharge from the vagina, and the continuance of the menstrual flux, the latter a very important symptom. Besides this, we find that the women suffering from chronic metritis during pregnancy are all great sufferers from those phenomena called forth from the pregnant uterus by reflex action. The most violent vomiting, increasing to fatal gastritis, often repeated and alarming fainting fits, tooth-ache, and hysteric convulsions are among the number of disturbances, the surprising intensity of which is in most cases explained by the morbid condition of the uterus.

At times it happens, and mostly in those cases where the morbid action of the womb had seized upon the mucous lining, that the only spot where traces of the disease are found is the placenta, and very naturally so, it being the only part of the mucous membrane that is left in intimate connection with the womb, the rest of this lining being changed into an almost lifeless, discarded membrane. As a result of this morbid process we find placental apoplexy in its different stages, and genuine placentitis. Finally it may happen, that *the morbid condition of the womb disappears during pregnancy to return with renewed energy after parturition.* To prove the truth of this thesis will be the object of the present paper.

Every practitioner of experience will have met now and then with women who, although enjoying seemingly perfect health during pregnancy, are afraid of every following confinement, and so are their attending physicians; at least, the author has met with several such instances in his own practice. He has under his care a certain number of women, whose lives are jeopardized after every confinement by a so-called child-bed fever. At first it was impossible to find a satisfactory explanation for this fact, till at last, by a close examination and comparison of all the circumstances connected with the history of these patients, he came to the conclusion that all these cases of fevers repeated after every consecutive confinement must be accounted for, and are sufficiently explained, by the presence of a metritis existing in its chronic form for years, and appearing in an acute exacerbescence after every confinement. The history of two or three of these patients exhibits in its larger outlines the history of all of them.

CASE 1.—Mrs. L—, of Hudson Street, was a healthy woman up to the time of her first confinement, which happened in 1854. On that occasion she was attended by Dr. G. C. E. Weber, who was obliged to apply the forceps. The operation was unusually difficult, both from the enormous size of the child and the rigidity of the os externum. Delivery was followed by

a severe metro-peritonitis, from which the woman recovered very slowly. After this time up to her next pregnancy the lady was apparently healthy, although occasional back-aches, as well as irregularities in the monthly periods, and evident shows of a white discharge from the parts, seemed to indicate that some morbid process was going on in the womb. Soon after the beginning of the second gestation she felt perfectly healthy, and remained so up to the time of delivery. As soon as the first labour pains set in, I was called for, and although I was in almost immediate attendance, I was greeted on my arrival (July, 1856) by the vociferous screams of the baby itself. All that was left to do was the removal of the placenta. This happened on Friday morning, and all seemed to go on well, with the exception of a slightly accelerated and somewhat contracted pulse, till at length, on Sunday evening, the fever suddenly increased, and a regular chill ensued. Upon closer examination I was satisfied that I had to deal with an intensely acute metritis. To check the progress of the disease, all was done that could be thought of, and notwithstanding, when the fifth day arrived I had given up all hopes of recovery. No lochia, no secretion of milk, very painful and slightly swollen abdomen, repeated chills, profuse sweats—in short, not one encouraging symptom. But, to our surprise, the patient finally began to improve, all the dreaded phenomena disappeared one after another, and after a six weeks' confinement to bed the patient was able to leave the city for a change of air and scene.

Still, her health remained somewhat delicate, and all the above-mentioned symptoms of uterine disease made their appearance more marked than ever. But such was the strength of the patient's general constitution, that she had the aspect of a perfectly sound woman, and she never thought it worth while to be treated for these little ailments. And so she went through a third pregnancy, at first unmolested, but in the last month troubled with back-ache, bearing down, and all sorts of uncomfortable feelings about the abdomen and in the limbs. In February, 1858, I attended her during labour, and at this time I was able to ascertain that the womb, as far as it was in the reach of my finger, appeared to be hypertrophied and indurated, as if a plastic exudation had been deposited between the original layers of normal tissue. In harmony with this was the slow dilatation of the orificium uteri, although the pains were all that could be desired. But when the head of the fœtus had passed the os uteri, it was delivered rapidly, and parturition was effected in about twelve hours. After delivery, the pulse indicated feverish activity, and again a metritis kindled up, which, however, was of a lighter character than on the two former occasions; and after having been confined for three weeks, the patient went back to her former duties. The same uterine symptoms continued up to the present time. She became *enceinte* for the fourth time in May last, and *miscarried*, as I was told, in July, without any appreciable cause, at one of our bathing resorts, where she had removed to spend the summer.

CASE 2.—In April, 1857, I was called upon at my office by a Mrs. S—, of Broome Street, with a request to attend to a disease of her womb, from which she had suffered for more than two years in such a way that she was unable to fulfil her duties at home. She complained of an almost constant pain in her back and lower part of her abdomen, of an acrid white discharge, and of painful, scanty menstruation. These local complaints were followed by a disturbed digestion and failing strength. On examination, the womb was found considerably enlarged in all its diameters, very painful to the touch, and somewhat lower down than usual. By the speculum both lips were found increased in size and of a high colour, os patent, stripped of its

epithelial lining and covered with well-developed granulations, which proceeded up and downward to both lips. A thick muco-purulent secretion was seen issuing from the os in considerable quantity. After this, it was clear that I had to deal with a chronic metritis, with catarrh of the mucous membrane, in its granular stage. An active treatment was at once resorted to, which, besides internal remedies, consisted of local depletions and the application of the lunar caustic to the diseased surface as far as it could be reached; and after some time a change for the better was effected. Still, Mrs. St—r was far from being cured, when I learned that she was in the family way. This occurred in June, 1857, and I expected, from the state of her yet diseased womb, that she would not go her full term. But the contrary occurred; the more she advanced in pregnancy, the better she began to feel, and nature seemed to come to the rescue in one of its mysterious ways, where our art was insufficient to remove the evil. I lost sight of my patient until I was called upon to see her again in February, 1858. But how different did she look now from what she did when I left her. At that time she was a stout, rosy-cheeked, healthy woman, and now she was little else than a living corpse.

Delivered very easily about ten days ago, with the assistance of a physician who resided near by her home, she was soon taken with a series of violent chills and fever, which was followed by delirium and a rapid falling off in strength. These chills had continued nightly up to the time I saw her. Upon examination, the uterus was found considerably distended, its fundus situated between umbilicus and symphysis ossium pubis, very painful on being touched, and, as it seemed, immovably fixed by strong adhesions. What little of the lochia was present consisted of a few drops of a thin, fetid secretion. Near the left elbow and the right metacarpal joint were deposits of pus, and another abscess in the middle of the sacral region. There could be no doubt of the nature of the disease; it was a metritis and metro-phlebitis, with its consequences. Under these circumstances, I called Dr. J. Kammerer in, to treat the patient with me in consultation. Sulphate of quinine and morphine were the leading remedies upon which we agreed; and during the following two months the patient recovered so far that she was able to walk about and remove to other quarters. I again lost sight of her, and was told afterward that she finally died from the effects of her disease, under the care of another physician.

CASE 3.—In the same month of April, 1857, when I saw Mrs. S—r for the first time, I was called to attend to Mrs. H—, of Sixth Avenue, for a disease of the womb. It would be but a repetition of the symptoms I have given of the former case should I enter upon an accurate description of this second case. Suffice it to say that she suffered from chronic metritis, but the granulations around the os were considerably larger, and finally her complaints were aggravated by a marked hysterical disposition and a very obstinate spinal irritation. In order to bring on a lively reaction in the diseased tissue, I chose the liquor Bellostii for cauterizing the diseased os and cervical canal, which, combined with an adequate internal treatment, sufficed to change the diseased organs in their functions, at least, so much, that after a six weeks' treatment the woman declared herself to be *enceinte*, although she had not been so for the last four years. Still, I did not consider the cure perfected; the granulations were only partially removed, and I was of opinion that Mrs. H— would undoubtedly have a miscarriage. As soon as I was convinced of the truth of her statement, I ceased all treatment; the patient began to feel more hearty and comfortable than she had done for years, and I therefore hoped that this pregnancy would remove the remnants of her old complaint.

In February, 1858, I was present at her confinement, which passed over as
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easily as could be expected in any healthy woman. The first days in childbed offered nothing out of the way, except the pulse, which had not that quite softness so eagerly looked for in women after delivery; it was rather small and somewhat accelerated, nor was the lochial flux as easy and copious as might be desired. On the fourth day, the pulse was worse, skin dry and hot, abdomen somewhat swollen, lochia very scanty, discoloured, offensive; uterus very little contracted and painful to the touch; at length came a short chilly sensation, with increasing intensity of all the bad symptoms. In short, an acute metritis was established, which demanded the most energetic treatment. And the most urgent symptoms were happily removed when, after another closer examination of the abdomen, I detected a large, painful tumour in the neighbourhood of the right kidney. At that time I learned that for a few days back there had been a frequent inclination to pass water without any adequate discharge of urine. The water tested for albumen showed it in large quantities. My opinion as to the origin of this tumour was, that it was the consequence of a sub-peritoneal cellulitis surrounding the right kidney, propagated from the focus of the disease, the womb and appendages. Thus, I began to distrust the deceptive signs of a prompt recovery, and alas! too soon my worst fears were realised. Feet and face began to swell, and a thrice-repeated attack of acute oedema pulmonum brought the patient to an early grave, on the twelfth day after the birth of her child.

All these observations taken together are sufficient proof of the fact, that a chronic metritis has to go through an acute exacerbation after childbed, and in some cases to such an extent, that the patient's life is jeopardised, and it seems that the violence of the acute attack goes *pari passu* with the more or less advanced stage of disease that existed before conception took place.

ART. 141.—*On the Uterine Leucorrhœa of old women.*
By Dr. J. MATTHEWS DUNCAN.

(*Edinburgh Medical Journal*, March, 1860.)

The object of the present paper is to aid in advancing our knowledge of leucorrhœa, by the description of a true uterine form of it, occurring in women who have for a more or less considerable period ceased to menstruate. This description is based on the observation of some cases that have occurred in Dr. Duncan's practice, and which have fortunately been so distinct in their characters, and so free from complications with disease of neighbouring parts, as to afford almost typical examples of the affection.

The uterine leucorrhœa is, in the cases referred to, not symptomatic of any of the organic diseases of the uterus, such as fibrous tumour, or a complication of them; but, like the other primary leucorrhœa, is a disease of the genital mucous membrane; and, in this case, of that part of it lining the cavity of the womb.

This disease is not peculiar to women who have passed the child-bearing period of life. Uterine leucorrhœa occurs in young women in various forms; but in old women it has appeared to the author to have more characteristic, and, perhaps, peculiar symptoms. Its treatment has also peculiarities; but, above all, its diagnosis is important for two great reasons—first, that it may be appropriately treated;

and, second, that the alarm sometimes excited in the patient, and sometimes in the practitioner, by the great similarity of the symptoms to those of cancer, the bane of women of mature years, may be subdued.

Discharge per vaginam of muco-purulent matter is a symptom of the disease. The discharge varies in character, being sometimes like mucus, and thin, sometimes purulent, and more or less viscid. It is occasionally mixed with blood, or only tinged with it. In some cases this sanguinolence is produced only by the heat of the bed, or by anything coming in contact with the cervix uteri, especially if its mucous membrane happens to be abraded. If the discharge is retained in uteri, even for only several hours, it acquires a putrid odour. Its retention is apt to occur from the progressive atrophy of the neck of the womb leading to contraction of its canal. It may also, in some cases, be the result of flexion of the uterus; the influence of gravitation being then occasionally superadded to the dimensional contraction of the cervical canal at the seat of the flexion.

When the discharge does not flow freely, but accumulates in and distends the cavity of the uterus, it gives rise to a peculiar pain around the loins or pelvis, of a girding nature, as if a tight, hard cord partially or entirely encircled the person,—a pain having probably some remote analogy to the corresponding symptom produced when labour is obstructed by the distended hydrocephalic head pressing on the cervix uteri. Other pains may be present in the region of the uterus, or there may be irritation and pain of the vulva, from the constantly passing discharge; but these are not characteristic symptoms.

The only other notable symptom is disorder of the stomach and vomiting. When it occurs, it is evidently the result of what is called sympathy with, or the reflected action of, the uterine nerves irritated by a replete and tense uterine cavity.

The exact seat and nature of the disease requires for its diagnosis a careful physical examination. The more or less atrophied and tept-shaped fornix of the vagina is first felt, and at its apex the more or less atrophied cervix, with a patulous mouth. The body of the uterus generally stands high, and may be felt to be enlarged, generally, though not always, inconsiderably. A probe, passed into the patulous external os, soon finds that the internal os uteri is not in a similar condition. But having permeated it, the uterine cavity is found to be wide and capacious, the point of the probe moving preternaturally freely in it. When the probe passes without force, it causes almost no pain. It should be urged and handled with great care and gentleness; for, should the uterine walls have their toughness and elasticity destroyed by disease, whether simple or malignant, a probe may easily accidentally wound, or even transpierce them; and, while such a wound may be harmless in the case of healthy walls, its gaping condition, when made in an unelastic wall, will render it at least dangerous, and probably fatal.

If a small plug of sponge-tent be passed into the cervical canal, to dilate it for the free passage of the discharge, the latter will be restrained completely for the time, and the girding pain will be much increased. On the removal of the sponge, the discharge will come

away fetid in a gush, and the girding pain will be completely relieved. Much care is necessary in using the sponge; for, if too large, it may lacerate the rigid atrophied cervix by its rapid expansion; or, by too long obstruction of the discharge, the over-distended uterus may burst, especially if its walls are degenerated and unelastic; or, by the same cause, the noxious fluid may be forced through the tubes into the peritoneal cavity. These risks are over-above those rare evils which occasionally occur from the use of sponge-tents in cases that appear to be in every way proper for their application.

Examination with a speculum, adapted in size to the condition of the parts, may not be necessary. By its means an abraded condition of the cervix uteri may be remarked; and probably the process of the examination will cause blood to ooze from these parts.

The general aspect of cases of uterine leucorrhœa in old women appears to differ considerably from that of the young, although there is no single feature to distinguish them if the atrophy of age be omitted. This last condition implies a smooth vagina contracting in dimensions in its upper part, an elevated uterus, a small cervix,—states which are, of course, never observed in the young. But it will be found that in the old the disease is more chronic than in the young; that there is less pain and tenderness in the old than in the young; that in the old, thickened uterine walls and flexions or versions are rarer than in the young; that sanguinolence of the discharge is also rarer in the old than in the young; while fetor of it is more common, from a circumstance already mentioned, which leads to its more prolonged retention in utero. All these differences may not exist in any two cases that may come under a practitioner's care; and even if they did, they would not be sufficient to establish any essential difference in the diseases; but they are of considerable importance nevertheless.

The treatment which has proved most successful in the hands of the author is one which is certainly not generally applicable to cases occurring in young women. It is the regular use of cauterization by nitrate of silver, applied every third or fourth day to the interior of the uterus, in Lallemand's port-caustic. After each application the discharge is altered in character for a day, and subsequently diminished in quantity till it gradually disappears. Another remedy has appeared to be of marked service, namely, irrigation of the cervix uteri and vagina with water considerably below the temperature of the body. This is easily effected by a Higginson's syringe, a syphon, or some other suitable apparatus.

As the cure progresses, the dimensions of the cavity of the uterus are perceived, on introduction of the port-caustic, to be gradually lessening, the atrophy of the cervix rapidly increases, the external os uteri loses its patency, and at last the discharge entirely ceases to flow.

The disease being in itself not a fatal one, opportunities for *post-mortem* investigation can rarely occur. Dr. Duncan refers to the appearances observed in one aggravated and uncured case, where the patient died of dysentery, and where only a hurried autopsy was allowed. The uterine cavity was dilated, so that it might contain

little less than half an ounce. The walls of the uterus were abnormally thin and soft, and the mucous membrane of the uterine cavity had an irregular and almost ragged surface, the depressions being apparently seats of ulceration.

ART. 142.—*Ovariectomy a justifiable operation.* By Dr. J. Y. SIMPSON, Professor of Medicine and Midwifery in the University of Edinburgh.

(*Medical Times and Gazette*, March 3, 1860.)

It has been objected to ovariectomy, first of all, that it is a very dangerous and formidable operation; and as a matter of fact the observation cannot be gainsaid. To open into the abdominal cavity of any patient, and remove from it a large morbid mass, is to expose that patient to many great perils, both immediate and remote, however skilfully the operation may be conducted, and however sound the constitution of the patient herself may be. But if an operation must be rejected simply on the mere ground that it is dangerous, then there is an end to all the efforts of surgery; for no operation that is ever performed—not even the most trifling—is altogether free from danger. But this operation of ovariectomy, it is averred, is so much more dangerous than any other kind of operative procedure that it ought not to be recognised and performed as a legitimate surgical proceeding. Let us see how far this allegation is founded on fact, by comparing the mortality from ovariectomy with the mortality from other capital operations, which are not only considered as legitimate, but which surgeons count it a glory to perform. A correct idea of the relative degree of mortality resulting from ovariectomy, as compared with other capital operations, may best be formed from the following table:

Mortality after Ovariectomy and after various other capital operations.

Reporter.	Nature of Operation.	No. of Cases.	No. of Deaths.	Proportion of Deaths.
Fock	Ovariectomy	292	120	41 in 100, or 1 in $2\frac{1}{2}$.
Atlee	Ditto	179	59	33 in 100, or nearly 1 in 3.
Simon	Ditto	44	32	73 in 100, or 1 in $1\frac{1}{2}$.
Clay	Ditto	93	29	31 in 100, or 1 in $3\frac{1}{2}$.
Peacock	Amputation of limbs	72	35	49 in 100, or 1 in 2.
Cooper and Inman	Herniotomy	622	296	47 in 100, or 1 in $2\frac{1}{10}$.
Various surgeons	Ligature of innominate artery	14	14	All those operated on have died.
Inman	Ditto of subclavian	40	18	45 in 100, or nearly 1 in $2\frac{1}{10}$.
Inman and Phillips	Ditto of other large arteries.	370	123	33 in 100, or 1 in 3.
Cox	Amputation at hip-joint for chronic disease	24	18	75 in 100, or 1 in $1\frac{1}{2}$.
Malgaigne	Amputations of limbs	852	332	33 in 100, or nearly 1 in $2\frac{1}{2}$.
Malgaigne	Ditto of thigh	200	122	61 in 100, or 1 in $1\frac{1}{2}$.
Lawrie	Ditto of limbs	276	101	36.6 in 100, or 1 in $2\frac{7}{10}$.
Fenwick	Ditto	4937	1565	32 in 100, or 1 in $3\frac{1}{5}$.

This table does not profess to give an accurate analysis of the results in all cases of ovariectomy, any more than to show the precise amount of mortality attendant on all the other kinds of operation referred to. The mortality from ovariectomy, like the mortality from other operations, differs much at different times, and when performed by different operators. In Germany they have been particularly unfortunate with this operation; and hence the statistics of Simon—which refer exclusively to cases operated on in Germany—show a tremendously high rate of mortality. It is difficult to understand why the operation should have proved so fatal in the hands of operators so distinguished as Kiwisch, of Würzburg, and Langenbeck, of Berlin; the latter of whom lost five out of the seven patients on whom he operated, while the former had as high a rate of mortality as one in two. This want of success is all the more striking when we contrast the results of the operation, as performed by these men, with the results obtained by Drs. Clay and Atlee from the same operation; the latter of whom has lost only one in three patients, while the former has had so low a rate of mortality as one in three and a fifth of the whole number of patients operated on. But, taking the data of

the laboriously compiled analysis of Fock, as presenting a fair average of the general results of the operation up to within the last few years, we have a mortality attending ovariectomy of about forty-one per cent.—or, in other words, two patients die out of every five operated upon. Now, if this rate of mortality be compared with the rate of mortality attendant on other great operations, it is found that ovariectomy is less fatal than some, and but slightly more formidable and dangerous than others. It is hardly more fatal, for example, than amputations of limbs are shown by Malgaigne to have been in the great hospitals of Paris, where about thirty-nine per cent. of all the patients die after amputation of the leg, thigh, and arm; and it is less fatal than the same kinds of operation are shown by the statistics of Dr. Peacock to have been in the Edinburgh Infirmary, where more than forty-eight per cent. of all the patients subjected to amputation of the arm and thigh died from the effects of the operation. It is less fatal than herniotomy; less fatal than the operation of tying the sub-clavian artery; less fatal than amputation of the thigh; and far less fatal than amputation at the hip-joint. Well, then, if ovariectomy is to be condemned as an unjustifiable operation, and rejected altogether from surgical practice, on the simple ground of the high rate of mortality attendant upon its performance, then, to be consistent, surgeons must cease to perform various other operations which have been shown to be on the same level with ovariectomy as regards their ratio of mortality, or even to be more fatal than ovariectomy. They seem to regard the ligature of the arteria innominata as justifiable, though every patient upon whom the operation is performed dies; though they regard ovariectomy as not justifiable though three out of five operated upon recover.

ART. 143.—*Spontaneous emptying of an Ovarian Cyst into the Bladder.*
By Dr. ULLRICH.

(*Monatssch. f. Geburtsh.*, Bd. xiii, Ht. 3, 1859; and *Med.-Chir. Rev.*, Jan., 1860.)

CASE.—A woman, æt. 35, had suffered eleven years before from inflammation of the abdomen, which was followed by great distension, and occasionally pains, with difficulty in passing stools. In November, 1857, the patient was attacked with irritative fever from abdominal inflammation. At this time several tumours larger than a child's head were observed. After several weeks the pains were suddenly much increased, and a great quantity of thick fatty matter, which was pure elain, was discharged by the bladder with much relief. The discharges went on for several days, so that the entire quantity amounted to several quarts, the swelling of the belly diminishing meanwhile. During the next four weeks the urine contained only drops of fat, but always a copious purulent sediment; then an exacerbation of pain occurred, and a pint of decomposed pus was voided by the bladder. From this time the patient improved, but the urine contained from time to time a purulent sediment and fat-drops.

It is concluded that here an ovarian disease was cured by a communication with the bladder, since only the fat-glands in a desmoid cyst of the ovary could produce so copious a fat-formation.

ART. 144.—Ovariectomy in Ohio ; being the report of a Special Committee of the Ohio State Medical Society. By Dr. J. W. HAMILTON, Professor of Surgery in the Starling Medical College.

(*Ohio Med. and Surg. Jour.*, Nov., 1859 ; and *North Amer. Med.-Chir. Rev.*, Jan., 1860.)

This report embraces within its range fifty-one cases of ovariectomy performed in Ohio by surgeons of that and other States, as well as some cases operated upon by Ohio surgeons out of the State. It includes twenty-five hitherto unreported cases. From it we condense the following facts :

1. The *age* of the patient is given in twenty-five instances, the average being thirty-four years, the extremes sixteen and fifty-six. The operation has been more successful in the younger than in the older, in the proportion of eight to five ; that is, of twelve patients whose age averaged twenty-six and a half years, eight were cured, while in the same number of the average age of forty-five and two thirds years only five were cured.

2. *Tapping* does not appear to have compromised the chance of success, having been performed in nine cases from one to ten times. Subsequent extirpation resulted favorably in six of these.

3. *Adhesions* are specified in thirty-four cases ; being slight or not existing at all in twelve, of which nine were cured. In twenty-three they were strong or extensive, and of these more than four fifths were fatal. Absence of adhesions is, therefore, a favorable symptom.

4. The *length of the incision* is given in twenty-nine instances, in two of which the minor operation was performed. It ranged from six to twenty inches in thirty-seven cases.

5. *Separation of the ligatures* took place in eighteen cases in from fourteen to twenty-nine days, the average period being twenty-four days.

6. The *time of death* is specified in twenty-three instances. In two cases it occurred in one year ; in one case in four and a half months ; in three cases in from twenty to forty-five days ; in five cases in from seven to seventeen days ; in two cases in from five to six days ; in six cases on the third day ; in three cases within two days, and one patient died on the table.

7. The *cause of death* in fourteen cases is attributed in one to acute pneumonia ; in two to gangrene of the sac ; in one to congestion of the brain ; in one to inanition ; in one to shock ; in one to exhaustion ; in three to hæmorrhage ; and in four to peritonitis.

8. *Extirpation was impracticable* in thirteen instances. Of these seven died from the within forty-five days ; two lived one year ; one was c ly ; and in three the patient was rendered neither |

9. *Extirpation was practicable* in thirty-seven cases, sixteen dying from the operation.

10. *Cures*.—In twenty-one cases recovery took place after the removal of the tumour, and, so far as has been ascertained, the patients are in good health, and there has been no return of the disease. In three the belly was opened, but on account of extensive adhesions the operation was abandoned. These cases recovered from the incision. *Thus we have twenty-four surviving, and twenty-seven perishing from the operation.* Of the former at least sixteen are now living and in good health.

11. The *size of the tumour* is specified in twenty-nine instances. The smallest two weighed five and seven pounds, the largest two 106 and 136 pounds. The average weight of all the tumours was thirty-four and two thirds pounds. Further examination of these cases shows that extirpation of the larger tumours has been more favorable than that of the smaller, in the proportion of nearly three to one.

12. The *pathological characters* of forty-three tumours are specified. Thirty-two are cystic, the majority being compound; six are solid or fibrous; two omental; two uterine; and one a tubal foetation.

Professor Hamilton concludes his interesting paper by discussing the propriety of receiving ovariectomy as an accredited operation, and concludes by saying that "the surgeon, ordinarily, has no right, till a less hazardous or more successful treatment is presented, to withhold the operation, when the diagnosis of cystic disease is clear, if, after a candid and full statement of its hazards, the patient is desirous to assume them." This remark is especially applicable to the proliferous cyst, on account of its rapid growth and its not admitting of cure by other means. Moreover, the author has shown that the compound cyst constitutes more than two fifths of the forty-three specified tumours; the simple cyst amounting to only two sevenths. Of the former eleven sixteenths of the extirpations resulted in a cure; of the latter only one third. Removal of the compound cyst is, therefore, a more successful procedure.

ART. 145.—*Spontaneous elimination of a large uterine fibroid tumour.*
By Dr. ZIEMSSSEN.

(*Firchow's Archiv*, 1859; and *Med.-Chir. Review*, Jan., 1860.)

Dr. Ziemssen's case of spontaneous elimination of a uterine fibroid tumour is of great interest in reference to the question of the removal of uterine tumours by operation.

CASE.—A woman, 40 years old, had borne one child, and had menstruated regularly. She observed a swelling in the abdomen in 1855, which gradually increased. In the autumn of 1858, when examined by Dr. Ziemssen, the tumour was of the size of a child's head, very resisting, and resembling a gravid uterus of six months; it was very slightly moveable; it did not distress either bladder or bowel. The brim of the pelvis was quite filled by the

tumour; the vaginal portion of the uterus was directed backwards, and so high that it was reached with difficulty; the os was closed. The patient had suffered neither hæmorrhage nor pain; she was in good health. But in December, hæmorrhage from the uterus took place, with labour-like pains. This recurred in January, 1859, with more violence; strong pains, great tenderness of the abdomen on pressure, a febrile condition, and presently great weakness followed. On the 12th of February, hæmorrhage, followed by great anæmia and faintings, and attended by great pains, occurred. There was also irritative fever. In the beginning of March the discharge became offensive and discoloured, and in a few days this so increased as to empoison the room. One day the tumour seemed suddenly to have become softer. On the next morning several fatty, foul pieces of tissue, from the size of a walnut to that of an apple, were expelled by strong uterine contractions. Similar pieces were expelled in the following days. On section they appeared shining and reddish, resembling muscular tissue. Professor Grohé, who examined the structure microscopically, found it to consist of connective tissue, and smooth muscular fibres, both in a state of commencing decomposition. During this process the swelling in the abdomen lost considerably in bulk and firmness. The last piece was expelled on the 27th of March. On the 30th of April the patient had returned to work. The uterus remained somewhat above the normal size, but was of normal form. Menstruation returned, and a chronic uterine catarrh seemed the only remains of the recent affection of the womb.

ART. 146.—*Observations on Ovarian Cysts which contain hair.*
By Dr. ROBERT LEE.

(*Proceedings of the Royal Med. and Chir. Society, March 13, 1860.*)

The author commences his communication by citing the various authors who have written on this subject, observing, that while the older writers had regarded them as instances simply of extra-uterine or ovarian conception, Dr. Baillie had been the first to question the correctness of this view, in consequence of his having discovered such pathological conditions in a female child, of only twelve or thirteen years old. This had led him to conclude "that such productions may arise from an action in the ovarium itself, without any stimulus from the application of the male semen." This case is quoted in full from the 'Philosophical Transactions,' and another case recorded by Dr. Baillie, in his 'Morbid Anatomy,' is also referred to. In the very first volume of the 'Medico-Chirurgical Transactions,' an account is given by Mr. Abernethy of a case similar to that recorded by Dr. Baillie. Analogous cases are mentioned by Dr. Merriman and Dr. Edward Phillips in later volumes. Dr. Seymour, in his 'Illustrations of the Principal Diseases of the Ovaries,' details a case of the same kind, which he regards as "the result of an imperfect conception on the part of the mother of the individuals in whom they are found." The opinions of M. Cruveilhier and Dr. West on this subject, are then cited at considerable length, the latter embodying the chief results of late examinations by foreign pathologists. Four cases have come under Dr. Lee's observation, in two of which the cyst was in a

natural condition, while in the other two it was more or less disorganized by dropsy, cancer, inflammatory action, and so on.

The first case died of cancer in February, 1853, at the age of forty-three, under the care of Dr. Martin, who submitted the uterus and appendages to Dr. Lee. The left ovary was enlarged to the size of a child's head, and the Fallopian tube, much elongated, and adherent to the ovary, was filled with pus. Two cysts, nearly equal in size, were found in the left ovary, one of which contained purulent fluid, and the other a fatty-looking matter, with a great number of hairs loosely imbedded in it, varying in length from five to six inches. The fatty matter adhered at only one point to the cyst, and around this point, and nowhere else, were the hairs observed growing from the cyst-wall. Some of the hairs seemed to have bulbs, by which they were attached; in other instances, both extremities were pointed and free. The walls of the cyst were composed of three distinct coats—1, the peritoneal covering, along with a thin layer of the stroma of the ovary; 2, a dense fibrous coat; 3, a lining membrane, uniformly smooth, white, and glistening, except where the hairs and fatty matter were adherent to it, where it had a yellow colour, like a corpus luteum, and was thick and hard.

In Case 2, the ovary had been preserved in spirits from October, 1833, till November, 1859. The patient had died eleven days after delivery, and the cyst, of inconsiderable size, and filled with hair and fatty matter, was removed after death. It was now placed in a shallow vessel containing spirit, and dissected by means of the needle and forceps, with the aid of a lens magnifying six diameters. The cyst was found completely imbedded in the ovary, like a Graafian vesicle, so that between the peritoneum and the cyst-wall there was everywhere a layer of parenchymatous structure. The cyst consisted of two distinct membranes or layers, the outer thick and dense, the inner thin and transparent, which were easily separated from each other. Attached to the inner membrane at one point was found a yellow, hard body, which presented the appearance of a portion of scalp, with hair growing from it. No hair was anywhere else attached to the cyst. The author concluded that the cyst was an enlarged Graafian vesicle, in the interior of which the hair and fatty matter had been formed. The analysis of the fatty matter and hair, undertaken by Dr. Noad, gave in general terms the following results:

Water	...	...	...	...	...	78.60
Hair	...	...	...	...	...	3.23
Fat	...	...	...	...	...	16.17
An albuminous substance, having many of the characters						
of casein, and containing much sulphur	...	...	...	...	...	2.00
						100.00

In Case 3, the patient, at the age of thirteen, was tapped for ovarian dropsy. Two years later, during a repetition of the operation, the canula became obstructed by a mass of hair and fatty matter. The patient died some time after, and it was reported to the author that there was

a great mass of multilocular cysts and cancerous structure, with which were interspersed numerous long hairs and pieces of bone. A small portion was submitted to his inspection, which confirmed this statement.

Case 4 was that of a lady, aged twenty-eight, just returned from India, in the fifth month of pregnancy, having been married nearly five years. The history of the case, as given by the Indian medical attendant, was related, from which it appeared that an abdominal tumour had been observed very shortly after marriage, and that certain movements had been felt which had led to the idea that she was pregnant for some time; but that these had ceased, and a large discharge of purulent matter had taken place through the urethra before she placed herself under medical advice. The opinion first formed was that the tumour had been from the first ovarian; but this was subsequently modified by the discharge being accompanied by small, solid masses, which had much the appearance and character of bone. While under observation in England, it was noticed that these hard bodies consisted of hairs coated with calcareous deposit; and of these a large number were passed with much suffering. The patient was seized with puerperal convulsions, and delivery was immediately had recourse to with a view to saving the life of the mother; but though there were no convulsions after delivery, and consciousness returned, yet she sank and died in two days. After death an ovarian cyst was found communicating with the bladder, and hairs were seen growing from one point of its lining membrane.

In an Appendix to the paper, the author refers to published cases of a similar nature which had subsequently come to his knowledge, recorded by Sir B. Brodie in his 'Lectures on Diseases of the Urinary Organs,' and by Dr. Hemming in a note to his translation of Boivin 'On Diseases of the Uterus.' To these are subjoined a letter from Mr. Lawrence, detailing from memory the particulars of a case which occurred in the practice of Mr. Abernethy, in 1816. The patient was a married lady, over sixty years of age, and several concretions, which seemed to have formed around hairs, were removed from the bladder by the operation of lithotomy. She survived the operation three years.

(C) CONCERNING DISEASES OF CHILDREN.

ART. 147.—*On the influence of Sex in the diseases of children.*
By Dr. KÜTTNER.

(Journal f. Kinderkrankheiten, Nos. 1, 2, 1859.)

Dr. Robert Küttner, of Dresden, proves by accurate statistical reports, that long before the complete development of the sexual organs, even in the earliest infancy, diseases depend much on sexual difference. The results of his comparative examinations of ten thousand cases of infantile diseases, are the following: 1. Boys, particularly in the first year, suffer more from inappropriate food and diseases of the digestive organs than girls of the same age, and a greater number of boys perish in consequence of such diseases; the relative mortality being about the same in either sex. 2. Diseases of the brain and the nervous system in general, are twice as frequent in males as in females, particularly in and after the fifth year of life. 3. Umbilical and inguinal herniæ are more frequent in males than in females. 4. Diseases of the respiratory organs are more frequent in females after the third, and even more so after the fifth year. A larger number of such diseases prove fatal in females. 5. The same observation is made in organic diseases of the heart. 6. Acute diseases of the blood exhibit no perceptible difference as to sex, but chronic anæmia and scurvy-like decomposition of the blood is more frequent in females than in males, especially after the eighth year. At this age the proportion of thus diseased females to males, is ten to one. Scrofula and tubercles show no particular difference in the first years, but after the fifth year of life tubercles in the lungs are found more frequently in females. The number of cases of rachitis is pretty equal in the two sexes, but it is often developed at a later period, and is apt to last longer in females than in males. 7. Chronic diseases of the skin, particularly eruptions of the scalp, are more frequent in females than in males after the ninth year. 8. The same is found to be the case in tumours of the thymus gland.

ART. 148.—*On the employment of Iodide of Potassium in diseases of the brain in children.* By Dr. JOHN COLDSTREAM.

(Edinburgh Medical Journal, Dec., 1859.)

Twenty years ago, iodide of potassium was recommended by Roeser, as a remedy of special power in hydrocephalus, and since this time Drs. Risdon Bennett, Copland, Evanson and Maunsell, Willshire, West, Wood, of Philadelphia, and others, have added their testimony as to the value of this medicine in this and analogous cases.

"My own experience," writes Dr. Coldstream, "has gradually led me, for a considerable time past, to its employment, almost exclusively, in the treatment of those numerous ailments of children, which we cannot but regard as indicative of a tendency to hydrocephalus. In all cases in which, from the course of symptoms, I

have reason to believe that the central organs of the nervous system, or their envelopes, are in any degree affected with strumous inflammation (tubercular cerebritis, or meningitis) or its consequences, after moderate purging, and perhaps application of leeches to the head, I am in the habit of prescribing the iodide, in doses of from half a grain to three grains, every three or four hours, generally dissolved in some carminative water, and continuing it in doses, varied according to the symptoms, for many days, or even until convalescence is fully established; and I am quite satisfied that, under this treatment, with the occasional addition of blisters to the shaven scalp, I have seen far more prompt and decided effect produced upon the disease than I used to see under the old treatment.

"When opportunities have been afforded of commencing the use of the iodide early, it has appeared in several cases to arrest the progress of the disease *rapidly*, so that the formidable effects of effusion, indicated by squinting and convulsions, have not supervened. In less favorable circumstances, in cases where considerable prostration had succeeded to great febrile action, and in which starting and squinting had become prominent symptoms, I have seen, in not a few instances, the free use of iodide of potassium followed by amendment and complete recovery. In such cases, and in others still farther advanced, I have generally given larger doses, even to the extent of four grains, several times a day, to children of from four to eight years of age.

"The medicine is very seldom refused by the patient, and I cannot say that I have ever seen it either increase the nausea that so frequently exists in the earlier stages of the disease, or produce any other untoward effect; especially have I never seen it induce salivation, which the drug sometimes seems to cause when given for other ailments.

"It seems generally to act upon the kidneys; yet I cannot say that the amount of relief to the head-symptoms bears any very obvious relation to the quantity of urine excreted.

"Although I have no doubt that the iodide is more especially useful in cases where there exists more or less of the scrofulous diathesis, I have often used it with satisfaction in patients apparently free from all such taint; even in cases where the ailment seemed to have followed injury from external violence, as so often happens in young children. I am not prepared, however, to assert that the iodide is more useful than calomel in *all* cases of inflammation of the brain and its appendages. When we have to treat robust and full-blooded children, in whom there is good reason to believe that the threatened disease of the nervous system stands more or less directly connected with preceding disorder of the digestive organs, I have no doubt of the superior efficacy of the mercurial treatment, combined with antimonials and salines; but when, after having duly administered these, symptoms of cerebral disorder continue, I would have recourse to the use of the iodide.

"In cases of convulsions from teething, which, amongst ill-fed children, living in badly-aired localities, are not unfrequently followed by hydrocephalus, I have used the medicine with much satisfaction.

"I have occasionally employed the proto-ioduret of mercury, as advised by Evanson and Maunsell, but not with more obvious benefit than I have been accustomed to see resulting from the use of the iodide of potassium. During convalescence, I generally prescribe the iodide of iron; sometimes a vegetable tonic, combined with the iodide of potassium.

"In several cases of recovery from severe attacks of meningitis, it has occurred to me to find the mental powers of the little patients considerably impaired. This result has occasionally been protracted for many years, and seems likely to prove permanent; but, generally, it has gradually become less apparent, and ultimately passed off entirely.

"In thus endeavouring to recall attention to what I believe to be a truly valuable agent in the treatment of a class of formidable diseases, I would not overlook the fact, that all past experience tends to assure us that a great majority of cases of disease of the brain in early life prove fatal under all kinds of treatment. In advanced stages of the tubercular forms of these diseases, we may not yet venture to hope for any great advantage in the use of the iodide of potassium. But I am disposed to agree with Drs. Copland, Willshire, and West, in believing that they may be cut short, if subjected to treatment in an early stage, more frequently than is generally imagined. My own experience leads me to regard the iodide as more likely than any other drug to promote this desired end; and my confidence in it, as the remedy best adapted to all stages of tubercular diseases of the head, is so strong, that whatever else might be done, or left undone, I would persevere in administering it, even in circumstances the most desperate."

ART. 149.—*The treatment of the Chronic Diarrhœa of children by the pulp of raw meat.* By Dr. TROUSSEAU.

(*Bull. Gén. de Ther.*, May 30, 1859; and *Med.-Chir. Rev.*, Jan., 1860.)

The plan of treating the diarrhœa of children by raw meat, as proposed by M. Weissé of St. Petersburg, has already been described; but Trousseau has lately introduced it into practice in Paris with great success, notwithstanding the natural opposition to such a system of treatment. Although the substance employed is raw meat, yet its administration must be accompanied by certain precautions, so as to render it palatable and digestible. The meat, in fact, must undergo a peculiar preparation, consisting in the complete separation of its fibres and the removal of all the cellular, fibrous, and tendinous parts which might offer obstacles to its solution in the gastric juice. The lean of beef, mutton, or poultry may be employed; but the first is far preferable. After having cut the meat into very small pieces, it is pounded and reduced to a thick pulp. This pulp is placed upon a sieve with small holes, after being stirred and pressed until the red and fleshy part can pass completely through the holes. Then the red strained matter is collected and mixed with sweatmeats, of which little balls are made for the children to swallow. Thus prepared, the pulp of raw

meat has not the taste of raw flesh, which, indeed, cannot be recognised; still, if the children continue to refuse it, the pulp is mixed with chocolate, and a new kind of aliment is obtained, the taste of which is more palatable. The quantity of raw meat thus administered to children ought not to be considerable at first, because they may dislike it, or suffer from indigestion. The dose for the first day may be ten grammes (four drachms) given at four separate times; the next day twenty grammes; the day after, thirty grammes, and so on in succession, until as much as 400 grammes may be reached; and then when the diarrhœa has ceased, the quantity of raw meat may be gradually diminished, to give place to other nutriment, such as broth, eggs, &c. From the commencement of the treatment, all accessory nourishment is interdicted, and only mild demulcent drinks are allowed. If the stools are examined on the first day, it is usual to find the meat in the same state as it was swallowed, and the fecal matters, which are excessively fetid, are composed of colourless fibrine, a little cellular tissue, and mucus. The treatment must nevertheless be continued, and a slight increase of strength is soon perceived; the child resumes its cheerfulness, plays about, and is soon entirely restored to health. When once accustomed to this kind of food, it sometimes happens that the children do not wish for any other; and often when flesh almost bloody is presented to them, they seem ardently to desire it.

It is difficult to explain how the pulp of raw meat is more easily digested by a diseased alimentary canal than meat cooked and prepared according to the refined processes of modern cookery; but the fact, however empirical, is no less certain. The pulp of raw meat is not only applicable to cases of chronic diarrhœa in young children, but to others occurring at more advanced years; and it has been successfully employed to effect an improvement in the general health of young persons. Still, it is in the former cases that this treatment has been most signally successful, and two cases are recorded as having recovered under this plan at the Hôtel Dieu, under Professor Trousseau.

In opposition to the opinions of M. Wiese, it has been found in France that raw meat may be administered successfully to adults in certain cases of chronic diarrhœa. The cases in which it is probably most successful are those of the same nature as the infantile diarrhœa in which the beneficial effects of raw meat are most marked; namely, when the disease is accompanied by great debility, but without organic alteration of the structures.

ART. 150.—*On precocious development of the sexual instinct.* By MR. ARTHUR A. W. JOHNSON, Surgeon to the Hospital for Sick Children.

(*Lancet*, Feb. 25, 1860.)

The following case is given as a fair specimen of the origin, and course, and consequences of this affection. This case and the comments to which it gives rise are deserving of serious attention, for it

is, we fear, no imaginary or unfrequent evil to which reference is here made.

CASE.—George A—, æt. 6, was admitted under my care in January of the present year. He had been in good health till he was two years and ten months old, at which time he was sent from home into the country, where he was put to sleep with a girl fourteen or fifteen years of age. Soon after this his health appeared to fail, and he became weak and ailing, but without any definite malady. Under tonic treatment some improvement took place, followed, however, by frequent relapses, and five months ago a new symptom manifested itself in the shape of deafness. He was then removed to London, and again came under the care of his parents, who were distressed to find, in addition to his deafness, that his appearance was much changed, and that from being a fine, stout child he had assumed the aspect of a little old man.

It was soon noticed that his hand was frequently applied to his penis, which was often in a state of erection, and that the prepuce was somewhat elongated. Suspicions arising on the part of his parents, a close watch was set upon him, when it was discovered that he was nightly in the habit of practising onanism. To put a stop to this, various means were adopted, including severe punishment by his father, after which he would promise to abstain, but during sleep he would get restless and excited, and on awaking up continue the practice, *emission taking place*. His hands were then fastened out of bed, but he still effected his purpose by a peculiar convulsive or instinctive movement of the thighs. He was directed to sleep with his hands out of bed, and under the immediate surveillance of the night-nurse. After the first night or two, the restlessness and movements were resumed, but of course immediately arrested. He was then placed on *bromide of potassium*, and afterwards on *belladonna*. Perfect cleanliness was inculcated, especially with regard to any secretion between the foreskin and the glans; and bathing, &c., ordered. At the same time, he was informed that it would be necessary, on account of his health, if the practice continued, to perform an operation, with the hope that the dread of this might prove effectual; but the nocturnal excitement still continued, and I have at last removed a portion of the foreskin, *without placing him under chloroform*. Since the operation he has been perfectly quiet, and he has now left the hospital, with instructions that he is to be brought back if any relapse occurs.

"My attention," says Mr. Johnson, "has been the more drawn to this danger from my having another case at the same time under my care at the Children's Hospital, in which a boy seven years old was admitted with a severe gonorrhœa and buboes, apparently contracted from a servant girl fifteen years of age, with whom he had been in the habit of sleeping. It must not be thought that the case I have related is a very exceptional one, nor that it is confined to the male sex, for it prevails amongst very young girls much oftener than is generally supposed. Many writers have noticed the very early age at which children give themselves up to it. Barthez and Rilliet, for instance, in their celebrated work on the 'Diseases of Children,' state that it cannot be concealed that 'it is often very young children who abandon themselves to it with fury;' and they place this amongst the causes which may give rise to tuberculosis. M. Marjolin is reported, in the 'Gazette des Hôpitaux,' to have stated that 'the youngest children are not exempt from the vice; that it is observed at the Hôpital des Enfants Malades, and even sometimes, which may

appear almost incredible, in children still at the breast.' Fournier and Bégin assert that they have several times observed it in infants, and detailed the case of a girl, four years of age, who gave herself up to masturbation, as it were instinctively. The real nature of the affection was not discovered for four years, and, notwithstanding the means adopted, the child ultimately expired in a state of frightful marasmus, carrying on the practice to the very last moment of her existence. Vogel, too, alludes to a little girl, three years of age, in whom repeated attacks of epilepsy occurred, after onanism had been indulged in for six months. Zimmerman notices the frequency of its occurrence; and Dr. Van Bambeke relates three cases in children from ten to twenty months old, the first child being a male, the other two females.

"In infancy, and even at a slightly more advanced age, the attention of the parents is the less directed to the practice because the hand is commonly not employed, the irritation being effected by a kind of instinctive or convulsive movement of the thighs, as was seen in the boy at the Children's Hospital. These movements, when noticed, are naturally not attributed to their real cause, but referred to the irritation of worms, or to some other innocent origin, and allowed to go on unchecked.

"According to Dr. Van Bambeke, who has written an interesting article on the subject in '*L'Union Médicale*,' the face of the infant at this time becomes injected and covered with sweat, the eyes are brilliant, and the child is abstracted from objects around. It generally lies down rather than sits, fixing itself against some object by way of fulcrum. The spasmodic condition, he continues, is followed by pallor and depression; and in one of the little girls, in whom the periods of excitement were very frequent, the erectile organs had acquired a pretty considerable development. The irritability of the mind and body, the peevishness, the alteration of the habits and general tone, together with the deterioration of the mental faculties occasionally observed in children, may, possibly, in some cases be attributable to this cause, and be the less amenable to treatment as their origin is hardly likely to be suspected. The disturbance of the nervous system is attended usually with some derangement of digestion and nutrition—functions of the highest importance at this age. The appetite becomes capricious, the muscles get weak and flabby, there is general wasting, and, in some cases, a decided state of marasmus. I have already stated that Barthéz and Rilliet place this vice amongst the causes which may lead to tuberculosis.

"The special senses, too, are occasionally impaired; that of hearing, for example, in the child whose case I have given; and of vision, as noticed by Mr. Kane, who attributes some forms of night-blindness as well as of amaurosis to indulgences of this description. I may mention also, that Marjolin asserts that 'almost all children affected with Pott's disease' (of the spinal column) 'give themselves up to onanism with a sort of fury;' though whether supposing any connexion to exist between the two, the disease of the spine is the consequence or the cause of the practice, may possibly admit of a question. Everything which contributes to the excitation of the

genitals may lead to the evil, and when any suspicion, therefore, exists, great care should be taken with respect to the child's bed, which should be neither too soft nor too warm, whilst the custom should be early acquired of sleeping with the arms outside the clothes. In males, a deposit of sebaceous secretion under the prepuce, and around the corona glandis, frequently occasions considerable pruritus, especially when a tendency to phimosis is present; and in both sexes the irritation of the parts from the existence of herpetic or other slight inflammatory affections may induce the practice. The genital organs, therefore, ought in all cases to be carefully examined, and any source of irritation at once removed. The existence of thread-worms in the rectum, or between the labia, where they may often insinuate themselves, should likewise be sought for, and means taken for their extirpation. The condition of the urine also should be attended to, for irritation of the neck of the bladder, from certain conditions of this secretion, leads to great excitement of the genitals, and, not unfrequently, to their being pulled about, as is seen so commonly in cases of actual or suspected stone. Cleanliness, of course, is of the greatest importance, and the sudden dash of cold water over the parts, at the very time of the excitement, will, perhaps, produce such a shock as to arrest the practice at once and for ever.

"At a somewhat later age—that is, in early childhood—when the habit has been persevered in for some time, the cure becomes more difficult. Any appeal to the moral sense, or any description of the evil consequences which may ultimately ensue, though recommended by some authors, I believe to be not merely useless, but injurious. If the child has not already acquired the vice, you run a great risk of teaching it to him; and if he has, an indefinite and unknown future evil will never lead such a child to abandon a present gratification. Great prudence, therefore, should be exercised in our investigations; and it may be desirable to be acquainted with a test which Dr. Donné asserts will enable us occasionally to recognise the existence of the practice—namely, the examination of the urine, which will present, shortly after the completion of the paroxysm, some mucus, mixed with crystals of oxalate of lime.

"The same care should be exercised at this age as in infancy in the removal of any exciting cause which can be discovered; the greatest cleanliness should be enjoined, cold bathing ordered, and the condition of the urine carefully attended to. During the day, a full amount of muscular exercise should be enforced, so that at night the consequent fatigue should render sleep prompt and necessary. Careful surveillance should be employed, and the hands kept outside the bedclothes, or actually fastened down; in extreme cases, too, we may adapt a kind of shield of gutta percha, or other suitable material, so constructed as to prevent friction of the parts either by the hand or in the manner already alluded to. I have made a short trial of the bromide of potassium, in consequence of its asserted emasculating properties; and of belladonna, on account of its great power in relieving the irritation which leads to nocturnal enuresis; neither of these remedies, however, had much effect.

"The means I have related will often fail of even temporary

benefit, for the act can be accomplished simply by the muscular movements already alluded to. In such cases we must, I believe, break the habit by inducing such a condition of the parts as will cause too much local suffering to allow of the practice being continued. For this purpose, if the prepuce is long, we may circumcise the male patient with present and probably with future advantage; the operation, too, should not be performed under chloroform, so that the pain experienced may be associated with the habit we wish to eradicate. In the female, Dr. Gros has advocated in like manner, complete or partial amputation of the clitoris; this, however, would seldom be called for, except, perhaps, in those cases where furious masturbation is associated with congenital malformation of the organ. In both sexes, if the use of the knife should be considered unavoidable, and the practice be still continued after all obviously exciting causes have been removed, various irritating applications may be used locally, so as to render any movement of the parts painful. These are most likely to be called for in boys, for in female children, with the exception of the congenital cases I have alluded to, the practice seems to be more easily checked by surveillance than it is in males."

REPORTS
ON THE
PROGRESS OF THE MEDICAL SCIENCES.
January—June, 1860.

THE intention of the following Reports is to pass in review the principal additions to each department of Medical Science, which have been placed on record during the preceding six months. It is not contemplated that they should be confined exclusively to the notice of what is new; any fact or doctrine which may be considered practically useful, will, although not strictly novel, be regarded as worthy of commemoration. It must be obvious to all who are aware of the immense mass of information which is almost daily put forth by the medical press of this and other countries, that the notice of every subject would be an impossibility. It therefore devolves upon the writers of each Report, to select only such articles for retrospection as may possess superior recommendations, either of an intrinsic character, or in relation to the main end and aim of all medical knowledge—the alleviation of suffering and disease.

I.

REPORT ON PRACTICAL MEDICINE.

On certain Popular Fallacies concerning the production of Epidemic diseases. By DANIEL NOBLE, M.D., F.R.C.P. (Pamphlet, Manchester, 1859, pp. 22.)

IN this paper, which was read before the Manchester Statistical Society, Dr. Noble discusses the validity of a dogma relating to the production of epidemic diseases, than which none has at any time been more energetically propounded, or received a more earnest and practical support—the doctrine that organic matter in a state of decay, associated with other conditions denominated *filthy*, constitutes the immediate cause of all febrile, contagious, and infectious maladies, and that consequently, such ailments as cholera, typhus, scarlatina, measles, and smallpox, would be nearly, if not completely abolished, if we could establish some perfect system of drainage, cleansing, and ventilation. In a word, his theory is that *typhus, scarlatina, cholera, and other such ailments, are not specifically produced by what are called nuisances*—no new thesis, one indeed which has been often and ably handled by many persons and in many ways, but still one of which the defensibility has yet to be sufficiently appreciated by many persons in the medical profession, and by almost every one out of the profession.

But why, asks Dr. Noble, “why discourage the philanthropic efforts of sanitary reformers by pressing hard upon their harmless exaggerations, and being at pains to confute their incidental errors? My answer is, first, because errors and exaggerations prejudice the truth, and that no upright and honorable mind will knowingly call in the aid of misstatement on behalf of even beneficial projects. Non tali auxilio bona causa eget.

“But, further, I believe that in some respects these exaggerations and errors have in various ways been productive of positive mischiefs. Amongst these I am disposed to indicate the comparative neglect of proper measures against contagion, by judicious sequestration of the sick labouring under infectious maladies. When we were invaded by cholera in 1849, the authorised dictum of the so-called Board of Health was against its contagious character, and formed the principal cause why almost the whole force of our precautionary measures was directed to the removal of nuisances. Whether as a consequence or only as a coincidence I will not undertake to say, but as a matter of

fact, the visitation of that year was of more than twice the severity of that of 1832, when hospital accommodation for the sick and speedy interment of the dead where the provisions more prominently instituted.

"Another evil, which I take in great measure to have been brought about by sanitary exaggeration, Mr. Robertson brought conspicuously, before this Society some years ago. I refer to the utter desertion of the very neighbourhood even of our large towns by almost all the wealthy and influential portions of the community. That this is a circumstance productive of both moral and social detriment to the bulk of our city populations, Mr. Robertson well showed; and yet I submit that there is nothing in the sure and valid results obtained by recent investigations to have necessitated that wholesale *exodus* witnessed of late years.

"Certainly it has been established that towns, on the whole, are less healthy than country places. It has been shown that the average age of death in the former is lower than in the latter, and that a greater proportionate mortality takes place annually in urban than in rural districts. Further, it would appear that, generally, epidemic and contagious diseases are more destructive in towns than in the country. In order, however, that the fundamental truth which these facts disclose should be correctly seized, the facts themselves must be subjected to some analysis; and, this being done, the result is to show that what is usually affirmed of towns generally, is true only of particular localities. The lower average age of death in towns compared with country places, is obtained by including the narrow streets, courts, and alleys, where overcrowding, filth, destitution, drunkenness, and indifference to infant life, form causes constantly operative in the destruction of human beings. When districts occupied by the middle and more opulent classes are selected for the investigation, to the exclusion of pauperised localities, little or no difference is discoverable between such places and the country. The annual mortality, moreover, with such qualification, is not proportionately high. And it is a fact, that diseases which appear to diffuse themselves more readily under bad sanitary conditions, such as typhus and cholera, no more spread, nor produce greater fatality in the better parts of a town, than they do in the country. Thus, typhus, in Manchester, raged during the year 1847 with thrice the severity of any previous visitation of the kind; yet it never became prevalent in any of our better-conditioned streets. If some few individuals became the subjects of attack residing in localities raised above the pauperised, it was from contagion imbibed through habitual attentions to the sick, and from such persons the disease never extended itself.

"Indeed, it appears to me that under the circumstances in which mankind at large are placed, and with reference to the human constitution generally, towns, as such, need not be less healthy than the country; and that, in point of fact, a well-selected dwelling in most of our great towns as they actually exist, will, in an immense majority of instances, be found just as conducive to health and longevity as one that is strictly rural. I say in an immense majority of instances, because, in a subject of this kind, no rule that can be laid down will apply universally; the truth being, that to some consti-

tutions the country, and to others the town is the most advantageous. With large numbers, town or country makes no appreciable difference.

"That I may make this part of my subject a little more intelligible, I will briefly state and explain a point of doctrine in physiology, which is this:—True health consists in the harmonious performance of all the functions of life; and harmony in this respect is secured and promoted by adapting the several organs and systems of the body as much as possible to the external conditions upon which their just exercise depends. Thus the lungs need sufficiently pure air, the stomach good food, and the brain and nervous system require that every influence which affects the consciousness should be grateful. I do not here state the whole case, but only what the occasion would appear to demand. Now, if there be defect or vice in any of the conditions just adverted to, the result, proximate or remote, must always be some injury to the health. The effect, from littleness of the cause, may scarcely be perceptible, but undoubtedly a prejudicial result of some kind or degree must always ensue from deviations from the strict laws of health.

"To apply this doctrine. Certain constitutions require in an especial manner that the inspired air should be pure, in order that the health be sustained in fair ordinary measure; in such instances, a country residence will generally be found the best. This is most frequently the case in scrofulous habits of body, particularly if the temperament be phlegmatic. Young children almost always flourish more in the country than in towns, especially in summer. It must yet be noted that, in winter, and in very exposed situations, there is greater liability to inflammatory disease, and more virulence upon its occurrence. These countervailing circumstances, however, may very well be obviated by corresponding watchfulness and care.

"Now, on the other hand, there are persons so constituted that health depends much more upon moral and social influences than upon any extraordinary advantages affecting the respiration. Such individuals will often enjoy much better health in the town or the immediate suburbs, than in the country; always supposing that some fair judgment has been exercised in the choice of a dwelling-house. Where the mind is active and the disposition social, the dull and tame tranquillity of a country life, and its comparative loneliness, operate prejudicially upon the brain and nervous system through the mind; and thus the health becomes deteriorated at its source—in the very springs of life. It is under circumstances of this kind that the invigorating effects of a temporary London life are often seen, if dissipation and excess do not antagonise them.

"To hard-working persons whose days are actively engaged in the commerce and busy pursuits of a town, the comparative calm and repose of evenings in the country are obviously beneficial. Yet, where the permanent residence is rural, the wives and the grown-up daughters but too often suffer from want of due activity in the brain and nervous system, productive of hysteria, low spirits, and other such mischiefs. There is in these cases a constant but unsatisfied craving for some sort of change, unrelieved by those little gatherings which,

in the present scattered state of our more opulent classes, have become impracticable, and which, under other circumstances, were the more recreative, probably, because without formality and largely improvised. Women in this state of things, living in the country, do not enjoy that succession of varied and agreeable impressions upon the mind which is so essential to harmonious action of the organism—the necessary condition of true health.

“And so it is with the functions universally; we must not limit our regards to any one. As man cannot live by bread alone, neither can he by air; human nature must be estimated in its totality, in all questions of its well-being. Not the lungs merely, but the organs severally, demand an appropriate *pabulum* or sustenance; and however excellently disposed may be the external conditions to any one portion of the organism, health will sooner or later fail, if the normal action of any other be interfered with prejudicially.

“In a large number of cases, it is undoubtedly true that the physical qualities of the atmosphere, as realised in certain rural districts, have an especially beneficial and curative action. In instances of exhaustion after acute diseases, country air is almost essential to a sound recovery. Many unhealthy habits of body, moreover, are incorrigible by medicine, unless the patient breathe the purest atmosphere. It must yet be maintained, and the fact should never be lost sight of, that a leading element from which the advantages often flow consists in the *change* of air. And how much is comprised in this well-used phraseology—temporary immunity from the ordinary cares of life, cessation of toil, daily recreation, novel scenes, and agreeable society; circumstances all most conducive to the restoration of shattered nerves and broken health. Again and again have these agencies been seen to effect wonderful improvement in disease, even where the change, so far as physical conditions are concerned, may have been for the worse—from country to town. It is certain—and no matter how the fact is to be explained—that mere change of air sometimes is advantageous to health, irrespective of concomitant circumstances acting through the mind. It is the same thing with food, as every one knows. Let the most delicate and the most nutritious viands be uniformly and habitually employed, and a *change*, abstractedly for the worse, will not only be relished but will improve the digestion. The *toujours perdrix* is unendurable.

“Hence it happens that change of air so often accomplishes good, after medicines have been tried in vain. It is a superficial judgment, however, which ascribes to the *place* benefits that really flow from the *change*. Disappointment is oftentimes experienced when this judgment has been acted upon. Permanent residences have been established in the charmed locality, whereupon the fallacy has been detected. Nervousness, biliousness, and sleeplessness, you have found to vanish upon a fortnight’s sojourn at the coast; but that this fact should receive its right interpretation, you must seek out the anxious-minded, disappointed, and over-wrought inhabitant of the favoured spot, and you will find that he suffers very much as you did before you left home. Take him back with you to town—make him forget himself and regard the world without—interest him with

strange society and novel circumstances, and your own atmosphere, pestilential as you thought it, will also seem to have disclosed a health-restoring charm."

Right notions on the subject of hygiene are of paramount importance, and we have seen nothing lately which is so well calculated to assist materially in the formation of such notions as this short essay of Dr. Noble's.

Rational Medicine in its Position and Prospects; an Oration delivered before the Members of the Hunterian Society. By STEPHEN H.

WARD, M.D., Physician to the Seamen's Hospital, "Dreadnought."
(Pamphlet, London, Churchill, 1860, pp. 52.)

As treated of by Dr. Ward, rational medicine is really rational medicine. In every page, indeed, we find evidence of clear thinking and plain speaking which redounds very greatly to the credit of the author. Take, as an example, what is said upon a question of much practical interest.

"Most medical men admit, that a large number of diseases will do perfectly well without, and cannot be curtailed by, any special interference of art. Among such we may instance the exanthemata and fevers. In all these, the poison is introduced from without, and Nature sets up a process with a view of expelling it. In the poisons of contagious diseases, of certain miasmata, and in some of those generated in the blood, on the one hand, and the conservative powers inherent in the system, on the other, a follower of Zoroaster would have seen the operation of the antagonistic principles recognised in his creed—the principle of evil introducing the elements of disease, the benign principle struggling to expel them. In such diseases little is to be done beyond studying their natural course, and carrying out indications. Yet even for such, we find a plan of special treatment constantly adopted. To take, for example, typhoid or enteric fever. We find it laid down in systematic works, that the enteric complication, and the attendant diarrhœa, require special treatment; and we find men of the modern Brunonian school advocating hyper-stimulation from the very commencement of the attack. I had, I admit, been myself guided by such views in my former treatment of this malady. Having, however, had very many cases of it under my care at the 'Dreadnought' Hospital, and having observed an aggravation of enteric symptoms, such as griping and tympanitis, almost invariably follow any arrest of the diarrhœa in the early stages of the disease, and cerebral complication frequently induced by premature over-stimulation, I was led to reflect upon the subject. I soon came to the conclusion, that the disease in Peyer's glands, and the peculiar cell-growth developed therein, with the concomitant diarrhœa, were but part, and, in the absence of much eruption, the principal part, of the process of elimination set up by Nature. I determined, therefore, to let cases which might come under my care run their course, uninfluenced by any special treatment whatever; to give only such an amount of stimulus as might be

necessary to sustain the flagging powers of the system, and to assist Nature solely by attention to modified hygienic arrangements in the way of rest, temperature, and diet. From the cases thus allowed to run a course absolutely uninfluenced by drugs, I was enabled, thanks to the careful observations made by Mr. Bedford, the resident medical officer, to get an insight into the natural history of this disease. I found that, during what I knew to be the stage of inflammation and ulceration of Peyer's glands, diarrhœa was the rule, and I quite understood that it was necessary. Towards the period of convalescence, however, when ulcerative action had ceased, and cicatrization had commenced, I found that the opposite condition was the rule. Nature kept the injured parts quiet, by calming peristaltic action; and the bowels, instead of acting several times in the twenty-four hours, were frequently not open once in two, three, or four days. In one case there was no evacuation for more than a fortnight; but experience taught us to let matters take their natural course, and the case did perfectly well. It must not be imagined because special drugging is generally useless or injurious in such cases, that the offices of the medical man are not required. On the contrary, an intelligent reading of Nature, and fulfilment of her indications as to rest, diet, and non disturbance of intestinal action, up to an advanced period of convalescence, are necessary in order to ensure a successful issue. Moreover, the rational practitioner is not fettered by any stereotyped conclusions, and reserves to himself the exercise of judgment in the administration of drugs when they may seem to be required. Thus, in the fever question, should the evacuations be copious and exhausting, astringents and opium may be necessary.

"I cannot refrain from introducing the following pertinent remarks by my colleague, Dr. Barnes :—'Some practitioners have been early taught by precept and example to believe, that fever *must* be treated by the unlimited exhibition of brandy and other stimulants. Impressed with this doctrine, they take care never to witness a case treated in any other way. They pour in brandy, and the patient recovers; he recovers because he was well treated! They pour in brandy, and he dies; he dies because he could not swallow enough! Under the influence of such preconception, a rational knowledge of the power of Nature is plainly excluded. How useful would it be, could such men have the good fortune to observe a dozen fever patients treated on the principle of non-interference!'

"I would add my protest against undue interference with fevers or the exanthemata, either in the way of stimulation or elimination, for Nature generally admirably adapts her operations to the powers of the patient. When she is unequal to her task, the assistance of the medical practitioner will, of course, be required.

"Cases of severe chronic or sub-acute dysentery have also shown me what mere hygienic measures will effect. Patients who, before they were brought into the hospital, had had from ten to twenty or more actions in the day, on being placed in bed, under favorable conditions as regards rest, temperature, and diet, had the frequency reduced to two, three, or none, in the same time, before any medicine had been given. The unaided powers of the system are frequently, I

am satisfied, equal to the repair of the most formidable dysenteric lesions, provided the conditions just noticed be fulfilled. On the other hand, I have met with many cases of dysentery which went on uninfluenced, alike under no special treatment, as under the usual astringent remedies, but in which healthy curative action succeeded to the cautious and protracted administration of mercury. What I have said in reference to the arrest of diarrhœa in typhoid fever, will apply with equal if not more force to the indiscriminate exhibition of astringents in cases of dysentery. Fetid secretions are better removed, than pent up in the intestine. A surgeon would not consider its discharges to be the best application for an unhealthy ulcer on the leg.

"Being resolved to test by my own experience the conclusions of the physicians already cited, as to the non-treatment (in a special sense) of those inflammatory affections for which men of the old school were wont to employ their more heroic remedies, I allowed the last seven cases of acute sthenic pneumonia, which came under my care, to run a perfectly natural course. I gave no drug whatever in any one of them, used neither leeching nor counter-irritation, but attended strictly to hygienic appliances, and they all did perfectly well! I draw no definite conclusions from so small a number of cases; I only say that, as far as they go, they lend support to the modern views of inflammation, and illustrate the curative powers of Nature."

Foundation for a new Theory and Practice of Medicine. By THOMAS INMAN, M.D., Physician to the Liverpool Royal Infirmary, &c. (Post 8vo, London, Churchill, pp. 374, 1860.)

Dr. Inman holds that the theory and practice of medicine ought to be based upon alteration in *power* or *vital force* rather than upon change in *structure*, and it is this idea which has suggested the title of his book,—foundation of a new theory and practice of medicine.

Two thirds of the volume are occupied by a clever and interesting attempt to show—that there is a certain force in operation in the body by which it is conserved during life and health in a certain definite condition; that when that force is no longer present, the individual is in the condition of a dead body, and amenable to the laws which govern the inorganic world; that there is a condition of the body in which it is not totally devoid of the vital force, and is not altogether under the influence of the inorganismal forces; that this condition is a variable one—the departure from the standard of full health being far greater in some cases than in others; that a departure from the healthy standard can readily be recognised; that such departure manifests itself by alteration of function, of structure, or of both; that it is *theoretically* impossible to consider that a departure from health can take place without the whole organism suffering, but that, *practically*, it is found that departure from health may show itself in one organ only, without such departure being recognisable in other parts of the body; that diseased conditions of the

body may originate simply from an excessive expenditure of vital force without an adequate restoration; or that the presence of disease implies that the vital powers have been in some measure overcome by an extraneous force; that if that force is sufficient to overpower them altogether, death is the result, but that if such extraneous force is not sufficient to destroy life, the body is again restored to a healthy condition by the continued operation of the vital powers; that the severity of any disease must be proportional to the comparative power of the extraneous force, and its duration must be proportional to that, *plus* the rapidity with which the vital forces are recruited after the foreign force has ceased to operate; and that, under all circumstances, health can only be restored through the instrumentality of the natural forces inherent in the healthy body.

Influenced by these and other considerations, Dr. Inman concludes that the plan of treating diseased persons by means which would make sound persons seriously ill is as much opposed to sound experience as it is to common sense and true philosophy. The old anti-phlogistic method is protested against as utterly wrong, and hygienic measures are insisted upon, as those upon which our chief confidence is to be placed. "For years," says Dr. Inman, "we have flippantly attributed the success of Hahnemann's followers to the power of nature, and the system of diet or hygiene they enforce. Yet we ourselves have been content to pass both these by, as almost beneath the notice of dignified orthodoxy. It is high time that a well-deserved reproach like this should be wiped away!" High time, indeed! if this reproach be really well-deserved, and if dignified orthodoxy has yet to learn the value of diet and hygiene. Much, no doubt has yet to be learned in connection with these all-important subjects, but we scarcely think that dignified orthodoxy is so ignorant, even here, as our author appears to think. At the same time we fully admit that there are many passages in the remarks upon diet and hygiene which show plainly enough the sound, practical sense of the writer. Take for example, the following upon exercise.

"There is no single item in the subject of hygiene which is surrounded by more fallacies than that of exercise. The ideas generally connected with it may be thus summed up. 'Experience shows,' it is said, 'that the most healthy men are those who go through a great deal of exercise;' therefore, it is argued, 'exercise is essential to health; and it follows, as a corollary, that a person who takes exercise must be benefited thereby.' As a natural result of this reasoning, exercise is looked upon as an essential item in the treatment of all diseases attended with debility, and there are few who do not consider it one of the most potent of the incentives to appetite. The rural ploughman, it is said, comes in hungry for his dinner; then how can an urban gentleman hope to have any appetite unless he has in some degree emulated the labour of the former? These conclusions are so very mischievous that they require a complete refutation.

"Does exercise benefit all individuals? or is exercise in the town to be taken as the equivalent of exercise in the country?"

"In answering this question, we ask, what the real effect of exercise

in the country is? It produces a brisk circulation of blood, a rapid expenditure of the old material of the body, a vigorous appetite, a good digestion, a perfect aëration of blood, and consequently, a rapid rebuilding of the body; it insures, in fine, an energetic and constant change from old and effete particles to new and healthful ones.

"But exercise, even in the most healthy atmosphere, is *exhausting*, when the individual is not recruited by food and rest. The willing horse, the active sailor, or the powerful swimmer, have all of them been known to die from an excess of labour. *Exercise, then, per se, is prejudicial, and it does good only when it promotes an appetite which can be allayed by sufficient food, and produces a vigorous circulation of blood in air sufficiently pure to insure a perfect aëration of that fluid in the lungs.*

"The necessary inference from this is, that exercise in a town is not the equivalent of exercise in the country, and that it is positively prejudicial unless it promote the appetite and the digestive powers, and unless (a proviso necessary in towns where poverty is rife) there is a sufficiency of food obtainable to satisfy the appetite existing."

And again:

"All agree upon *excessive* exertion being prejudicial, but they adopt as a standard the average work of mankind, and *not the patient's power*. The practical result of which is, that an individual is often recommended by the doctor to use an amount of exercise which is excessive for him, though it is inconsiderable for other people. I have known patients directed to walk a certain number of hours per day—say two or three—with the idea that it would improve their condition; yet they have got steadily worse, and have improved immediately upon giving up their exercise altogether. I have known others directed to increase their exercise from time to time, until they have been at last unable to take any, by being confined to bed. I have known the stomach to indicate exhaustion when the man was perfectly unconscious of fatigue; severe indigestion was the result, and yet the patient was recommended to take a walk to prepare the stomach for its work! In none of these instances, however, did the exercise *seem* to be excessive, *i.e.* beyond the powers of the generality of mankind; but it *was excessive* to the individuals, for it was *beyond their strength*.

"When once the powers of an individual are made the standard by which to judge of excess, it is clear that we are no longer in the region of comparative certainty, but are thrown upon a sort of irregularly sliding scale. Of the degrees of this scale the following will serve as examples:—Miss C—, with fatty heart, from being able to walk four miles with ease, was at last unable to walk up stairs, was then unable to walk across the room, and, finally, to hold conversations for more than an hour or two. When her condition improved she gradually regained her strength, and could walk four miles in one day; but this exercise for two or three days together would bring on paroxysms of dyspnoea, which would last for two days. These would equally be brought on by one day's exercise, if taken after the use of aperient medicines or other depressing agencies. I repeatedly see patients quite exhausted by *talking*, coughing, or

reading aloud—so much so, that they do not get over the effects in some days. Mr. S— is always painfully exhausted by half an hour's walk, though he looks healthy. Mrs. L— was thoroughly 'knocked up' by a drive in a car of four miles. Mrs. J— had intense dyspepsia, and was so weak as to be confined to her own room. As long as she was perfectly quiet, the digestion was fair; but the visits of friends, and the conversation consequent thereupon, were too much exercise for her, and the digestive powers were temporarily suspended entirely. This state of things might be mitigated by the free use of champagne. Mr. H— was so weak, that the exertion of walking some thirty yards prostrated his powers so completely, that he was unable to think or to write clearly for some hours after, and loss of appetite and indigestion followed. Mr. B— was exhausted by parting coals on the fire. Mr. J— had exhaustion, vomiting, and indigestion from an hour's driving, but gradually recovered his powers, until he could do as other people, and digest and enjoy solid food. All are familiar with the frequency of death caused by the simple exertion of getting out of bed to go to the night-chair, during the early convalescence of fever: and I doubt not, that many can recall cases like the following:—Miss R—, an overgrown, delicate girl, had epidemic influenza, for which she was treated by Epsom salts; these acted freely, and she became extremely languid, and was confined to bed. Her friends now visited her, and under the cheerful influence of their presence she sat up in bed, chatted merrily, ate heartily of chicken, and then lay down and died. One man has come under my notice who had suffered for years from bleeding piles; he was thoroughly blanched when they were tied. No special means were adopted for restoring his powers, beyond keeping him in bed; but as his appetite and digestive powers had gone, this did not improve his condition. About four days after the operation he died in the act of turning over in bed. Mary —, æt. about 22, died during a fit of laughing: her heart was fatty: not a fibre was found healthy. She had been for some time greatly addicted to intemperance, and had been very drunk the day before. I have known many patients with bronchitis, phthisis, &c., die very unexpectedly of pure exhaustion, from walking up the hospital stairs to their wards; and others from simply walking about one hundred yards on level ground. Mrs. T—, æt. 64, had an attack of diphtheria, but was so much better on the third day that she walked up and down stairs, and from room to room, frequently, under the idea that the exercise would do her good. The next day she was so very prostrate that she could hardly speak audibly, and the debility steadily increased for a fortnight, in spite of the most generous diet, tonics, and a free use of wine. I am at present attending a lady who is free from all organic disease, but who is so weakly that the exertion of going up one pair of stairs unassisted will confine her to her room for a week. She attributes this debility entirely to the exercise she was recommended to take, while at a fashionable watering-place.

In discussing this subject, it occurred to us to make some investigations upon the subject of gymnastics, training athletes, &c. We came upon the following facts:—All young men are not capable of being

trained as oarsmen, or runners, or boxers; some break down during the first week, others during the second, others, again, 'last out' for a period of six weeks, and then suddenly break down. One case has come under my own notice, in which a very highly-trained athlete, with muscles of extraordinary power, died suddenly of phthisis after a fortnight's illness; add another, in which the stroke oar of his college, became, in a similar period, a perfect wreck from the same cause. He recovered from the disease with a cavity in the left lung, and utterly unfitted for any business or profession. A third man had acute phthisis from running a race against time. I have met with apprentices, who, though slowly injured to their work, have been compelled to give it up at the age of nineteen; with seamen whom their work has not strengthened; and every general knows that many of his army are habitually knocked up by forced marches, while others can stand them almost with impunity.

"If there is constitutional debility, exercise beyond a certain point increases it, and no gymnastic contrivances can give to a delicate individual the vigour of perfect health.

"This being so, it is clear that an amount of exercise of which one man may be absolutely unconscious, may suffice even to kill another. It is equally clear that the prejudicial influence of the exertion will be in direct proportion to the debility of the patient.

"The sliding scale, then, which we have for a guide, is one having for one extreme, 'exercise conduces to health;' for the other, 'exertion is a cause of death.'

"With such a scale, it is manifest that exercise cannot be indiscriminately recommended as a means of restoration to health.

"May we not go further, and say, that as exertion carried beyond the bodily powers conduces to disease and death, so a cessation from exercise suspends the downward tendency? Thus *rest* becomes almost as important as *food*.

"To this conclusion a number of experiences induce us to come. All know the powerful influence of 'tired Nature's sweet restorer, balmy sleep,' in recruiting us after the fatigues of a day; its influence, when hunger is not verging into famine, is independent of food. Simple rest from labour has a similar result. The tired pedestrian throws himself on the ground, when overborne with fatigue, he can scarce make his way; no inn is at hand, and his own store of food is exhausted; he lies down for a few minutes, sleeps, perhaps, for a few moments, and then rises again, conscious of refreshment and renewed sense of power.

"Horses, dogs, and other animals do the same. For those who are originally strong and healthy a short rest suffices; to the weak and feeble a far longer repose is necessary. On this point the experience of horse-keepers is very decisive, and I am told that huntsmen find the same in packs of dogs; a few can be 'hunted daily,' a majority thrice weekly, but some few can only stand the fatigue once or twice during the same period.

"We come, then, positively to the conclusion, that there are instances in which we must attempt to re-invigorate the vital powers, by adopting a plan which would be positively prejudicial in conserving

them at a first-class standard, viz., by rest and repose—cases in which we must prohibit the smallest amount of exertion, and where we must appear as the encouragers of absolute indolence.

“But how simple does this become when we throw our considerations into the form of an aphorism, thus—*If the physician wishes to increase the vital powers of his patient, he must be as careful in husbanding those which are present as in trying to increase them.*”

“In illustration of this, I could give numerous cases, in which patients have been relieved of months and years of suffering, by simply adopting the habit of resting on their bed for a period of one or two, or more hours during the day. Even where there is no illness, but only weariness, and fatigue at night from the ordinary feminine household duties, the individual can get through the day with comfort to herself, and with increased efficiency for others, if this custom is invariably adopted. The posture chosen should be the recumbent one, and the head should be low.

“Many cases illustrative of this fact may be found in my work on ‘Spinal Irritation.’ One of the most interesting, I venture to reproduce.

M. I—, æt. 27, of delicate appearance, came under my care for pain and tenderness along the whole of the back. She was a housemaid, had an easy place and kind mistress. She was chlorotic, had no appetite for food, lived chiefly on tea, and was extremely weak. The pain was so severe that she could not sleep; contact with her body-linen was productive of great suffering, and it required all her energies to go through her day’s work. I found that the abdomen and chest were almost as sore as the back, and that she had cramp in most of the muscles of the trunk, at one time or another.

“I prescribed tonics and rest, but she got worse to such a degree that she could scarcely endure any movement of the body.

“She now left her place, took lodgings, lay in bed all day long, abandoned medicine, and in six weeks was quite well.

“Since recording that I have met with very many others of a similar kind.

“Now, the whole of the remarks we have made turn upon the effect which exercise produces upon an individual patient, and it may naturally be asked if we can suggest any natural and simple means for ascertaining the effect of exertion upon any one. I doubt whether any absolute rules can be laid down; the following are approximations to the truth:

“1. All exercise is prejudicial in patients who are weak and feeble.

“2. Exercise is prejudicial when it produces the idea of exhaustion.

“3. It is prejudicial when it is followed by loss of appetite, indigestion, or both, at the time or subsequently.

“4. When anæxia, flatulence, palpitation, nervous irritability, sleeplessness, consumption, diarrhoea, menorrhagia, chlorosis, &c., are present as prominent signs of the state of the constitution, exercise is far more likely to do harm than good, by aggravating the diseases present.

"5. In the above-mentioned conditions, rest is of far more service than exercise.

"6. When exercise is resorted to, and a moderate amount does good, it should always stop short of fatigue."

Dr. Inman knows of no substitute for alcohol in its two qualities of food and stimulant, and in illustration he gives a most extraordinary case which was reported to him by Mr. Slack, a gentleman who is described as an unusually close and original observer.

"A middle-aged woman came under his care during the temporary absence of a friend. For two years she lived entirely upon opium and gin and water. Her chief symptoms were frequent, almost daily sickness, and epileptic fits three times a week. The bowels were not opened during the whole two years. At her death, the abdomen was so distended as to appear ascitic. This was due to the coating of fat, four inches thick, in the abdominal walls. There was no obstruction in the intestinal canal, and no fæcal or other accumulation within it."

Some good instances are also given on the tonic properties of alcohol, when properly given.

"A child has come under my notice who had *tubes mesenterica*. The medical attendant,* a remarkably observing and clever man, had done everything in his power for it, but the child steadily got worse; vomiting and purging and marasmus were the prominent symptoms. One evening the doctor called while the father was enjoying some whisky toddy, and he administered some to the child. It was taken with a manifest relish and apparent improvement. The hint was followed up, and for three months the child, about two years old, lived almost entirely on whisky toddy. By the end of that time the symptoms had all given way, a healthy appetite returned, and the child recovered perfectly; and it is a remarkable and interesting fact that, during the period of returning health, the child enjoyed the mixture so much, that he would not go to sleep without a small bottle of it, which he nursed like a doll. But when recovery was quite complete, the child loathed the sight and smell of the toddy, and even cried if he was in the room with it. Another child, two years old, had marasmus, for which all remedies had been tried without success; as a last resource, the doctor ordered it wine and water, or spirits and water well sweetened; the child would not take them, however. Beer was then tried, but failed too. The parents were then recommended to try some particular Scotch ale; this was relished, and the patient began to mend directly. For the first fortnight nothing was taken but the ale, and the daily allowance was a pint; at the end of that time there was appetite for solid food, and in about six weeks the little patient was perfectly restored. As in the previous case, there was the utmost enjoyment expressed for the ale during recovery, and the child was so particular, that no other ale would it take; as soon, however, as it was well, it disliked the ale so much that it could not bear the sight of the bottle.

"The case of a Scotch lady has also been reported to me, who was said by many eminent surgeons to have cancer of the tongue, and to whom

* Mr. Nisbet, of Egremont.

extirpation had been frequently proposed; the lady firmly declined this, and at last abandoned the hope of cure. As she was a very abstemious woman, some friend suggested the use of whisky toddy as a medicine; the advice was adopted, and the lady was soon perfectly well."

Dr. Inman has no high opinion of a class of medicines in very common use as tonics or invigorators, namely *bitters*. "With a view to test the subject more closely," he says, "I have experimented on various bitters in my own person, and closely compared in others the influence of such remedies as iodide of potassium when used with bitters and without. I have taken infusion of gentian, &c., in doses of eight ounces at a time, and other infusions in like proportion, but in no case have I been able to recognise the smallest effect.

"What is true of infusion is not, however, true of tinctures, whose virtues seem to depend more upon the alcohol they contain than upon the vegetable extractive it is mingled with. I find no perceptible difference between the tincture of gentian and of tincture of cinnamon, cardamoms, cascarilla, columba, or orange, with this sole exception, that some stomachs will endure spice and loathe bitters, and others act directly the reverse.

"This estimate of the value of bitters is very contrary to that generally held, but it is, I believe, more trustworthy."

— We look upon Dr. Inman's book as a valuable contribution to the literature of the school of young physis, and we have no doubt that a thoughtful mind may find in it much food for profitable reflection. We think, however, that Dr. Inman himself does not appear to be so fully aware as he might be of the existence of this school of young physis, and of the deep impression which has been already made by its disciples upon the practice of medicine in this country and elsewhere.

Clinical Lectures on certain Acute Diseases. By R. B. Todd, M.D., F.R.S., Consulting-Physician to King's College Hospital, London. (12mo, London, Churchill, pp. 487, 1860.)

The design of these lectures is to describe and illustrate by examples the clinical history and treatment of the more important acute diseases, and particularly to show that the ordinary so-called antiphlogistic treatment is (to say the least) unnecessary for the cure of acute inflammation and fever. The conclusions to which the author is led respecting treatment may be summed up in the following propositions.

1. That the notion so long prevalent in the schools, that acute disease can be prevented or cured by means which depress and reduce vital and nervous power, is altogether fallacious.
2. That acute disease is not curable by the direct influence of any form of drug or any known remedial agent, excepting when it is capable of acting as an antidote, or of neutralizing a poison, on the presence of which in the system the disease may depend (*materies morbi*).
3. That disease is cured by natural processes, to promote which, in

their full vigour, vital power must be upheld. Remedies, whether in the shape of drugs, which exercise a special physiological influence on the system, or in whatever form, are useful only so far as they may excite, assist, or promote these natural curative processes.

4. That it should be the aim of the physician (after he has sedulously studied the clinical history of disease, and made himself master of its diagnosis), to inquire minutely into the intimate nature of these curative processes—their physiology, so to speak—to discover the best means of assisting them, to search for antidotes to morbid poisons, and to ascertain the best and most convenient methods of upholding vital power.

The acute diseases of which examples are given are, rheumatic fever, continued fever, erysipelas, pneumonia, peri- and endo-carditis, pyæmia. The cases of rheumatic fever, related first in order, are well calculated to show that bleeding, mercury, and colchicum are not all-powerful for good in this affection. In one of the cases, indeed, severe inflammation of the pericardium and pleura was developed, while the patient was in a state of actual salivation from the early administration of mercury. Dr. Todd speaks of his own treatment as the *treatment by elimination*, because its main object is to promote the elimination of morbid matter by the various emunctories.

“It is probable that the *materies morbi* in rheumatic fever is lactic acid or some analogous agent. We know that the natural emunctory of this is the skin. Many chemists maintain that it will also escape by the kidneys; and if it ever does so, perhaps this is more likely during rheumatic fever than at any other time. Again, since vitiated digestion is apt to produce it in undue quantity, and it, therefore, is formed abundantly in the stomach, there is every reason to think a certain proportion of it may be carried off through the alimentary canal. The indications are, then, to promote the action of the skin, the kidneys, and the bowels; to use antacid remedies; and to give large quantities of fluid for the free dilution of the *materies morbi*, and to supply the waste caused by the drainage from diaphoresis and diuresis.

“The best way to promote the action of the skin is by opium, especially if you combine with it nitre and ipecacuanha. For this purpose I sometimes use a compound which resembles the original Dover’s powder, in containing nitrate of potass instead of sulphate of potass, as prescribed in the compound ipecacuan powder of the Pharmacopœia. Our usual prescription is one grain of opium, one grain of ipecacuanha, and five grains of nitre; this must be given every two, three, or four hours, according to the urgency of the symptoms, and the need the patient has for opium. This drug quiets the nervous system, and procures sleep, and with the ipecacuan promotes sweating; while the nitre acts upon the kidneys, and the ipecacuan may exercise some influence on the liver.

“The best alkali on the whole is the bicarbonate of potass, which may be given in large and often repeated doses—a scruple or half a drachm every third hour. Sometimes the acetate of potass answers very well in similar doses, and many physicians much prefer it to any other alkaline salt.

“Next you must give purgatives to such an extent as to keep the

bowels in a loose state, taking care not to carry this treatment so far as to weaken your patient, or worry him by obliging him to be frequently moved in and out of bed. You will find it advantageous to use an alkaline purgative; and there cannot be a better medicine for this purpose than our hospital nostrum—the white mixture containing magnesia and sulphate of magnesia. Sometimes you may give the potassio-tartrate of antimony with advantage; but as it is a depressing remedy it is seldom advisable to use it.

“But while we are thus alkalizing our patient, and giving internally sudorifics and diaphoretics, ought we not to attend to the state of the joints? The diligent physician will tell you by all means to attack them at once—but there is such a thing as ‘nimium diligentia’ in physic as well as in other matters. Many will say, the best thing you can do is to leech a painful and swollen joint; I formerly tried this practice extensively, but for some time past I have not done so, as I generally found it either useless or injurious. You may apply leeches, and in a short time after you will find the pain and swelling removed, and you may be disposed to say, ‘Here is a proof of their efficacy;’ but wait twenty-four hours, and then you will generally find the pain and swelling as bad as ever, and the joint in just the same condition as before. Now apply leeches, and you will probably fail to give any relief. You have by the first application relieved the pain for a time, but you have produced no permanent good—you have rendered the disease more erratic, and less amenable to subsequent treatment. Frequently when you leech a joint, the pain and swelling subside, but its fellow becomes swollen; leech it, and the swelling and pain return to the original joint. Nothing is more important to avoid, nor more troublesome if not prevented, than the erratic tendency of the rheumatic state. It will fly from joint to joint, and in pursuing it with leeches you only drive it out of one joint into another. I am satisfied that leeching the joints favours this erratic tendency.

“I am not prepared, however, to advise you to neglect the local treatment of the joints. When they are much swollen and painful, you may give great ease to your patient by enveloping them in a large quantity of the soft carded cotton—commonly called *cotton-wool*. Over this you must wrap a sheet of oiled silk, so as to cover in the wool completely, taking care to have no part of it exposed. By this air-tight covering you keep the joints in a complete vapour-bath; and when you come to remove the oiled silk and wool, after twelve or twenty-four hours, you find the wool completely saturated with moisture, which generally is strongly acid. You have seen this in Elizabeth Stocking’s case. We find the plan so generally useful, that it is adopted in the hospital in nearly every case; it affords great relief, supports and keeps the limb steady, and at the same time promotes sweating. I may just mention, that this plan of enveloping the joint in wool and oiled silk is also very beneficial in gout.

“In a few, and only a very few, cases, I have found the pain aggravated by the heat which this mode of wrapping generates; and in cases where it is desirable to keep down the sweating, it is not advantageous to carry this plan beyond a day or two.

“The best additional local treatment is that by blisters of small

size, applied on or near the affected joints; they are very useful both in acute rheumatic and acute gouty joints.

"You perceive that all the means employed in this mode of treatment tend to elimination, and to the relief of pain; the opiate sudorific affecting the skin, the nitre and alkaline salts acting on the kidneys, the purgatives on the mucous membrane of the bowels, the wool and blisters on the joints.

"During this treatment, while you allow your patients the liberal use of simple diluents, you must give a fair amount of nourishment from the first; and I think this may be best supplied by a small quantity of good beef-tea, given frequently throughout the day.

"Often you will find it useful, and always when there is a tendency to delirium, to give stimulants, such as brandy or wine."

... "It may happen, and this is by no means of unfrequent occurrence, that the swollen and painful state of the joints does not yield to the cotton-wool and oiled silk only, or that the heat, which that application generates, cannot be tolerated by the patient. What further treatment of the joints will you pursue? I have no hesitation in advising you to apply blisters; and I would recommend you to use every means in your power to get them to rise well. I do not think it advisable to apply *large* blisters; on the contrary, they are injurious, and their use is to be deprecated. The plan I generally follow is this: I order a small mustard cataplasm to be applied to the affected joint, and to be kept on for half an hour to redden the skin; after its removal the skin is to be carefully washed and dried, and the blister may then be applied; you must not let the size of this exceed that of a crown piece. It is better to apply two or three small blisters in rapid succession, and to different parts of the joint, than one large blister. After the blister has risen well, if the swelling of the joint subsides quickly, as it very frequently does, you may let the blister heal as fast as it will; but if the swelling has not subsided, then you had better cut away the cuticle completely, and promote a free discharge from the blistered surface by dressing it with stimulating ointments. Some prefer to apply the blister above rather than over the joint.

"You need not be afraid to apply blisters in the early stages of the rheumatic inflammation of the joints. I believe the dread which some physicians had, and have, of applying blisters near inflamed parts—as near an inflamed lung, or pleura, or pericardium—is due to their having used blisters of too great a size. I have applied them very early to rheumatic joints in numerous cases, and always with more or less advantage, provided the blisters have not been too large. A very large blister is very apt to do mischief, and augment the inflammation of the joint; but a small one, varying in size from that of a crown to a half-crown, is almost invariably beneficial. When a very copious effusion has taken place into a joint, the plan of applying two or three small blisters in succession, at different parts of the joint, provided the first should fail in getting rid of the effusion, is productive of the best effects.

"I have seen excellent results from the application of blisters to gouty joints, even in the most acute stage. A discharge of a large

quantity of serum from the vessels of a gouty joint has all the good effects of the abstraction of blood from it, without any of the evil consequences of that mode of treatment."

In the treatment of the heart affection, Dr. Todd was in the habit of acting upon much the same principles as those which guided him in the treatment of the joint-affection, and for local treatment he trusted to free vesication and the promotion of a copious serous or sero-purulent discharge.

"On the first indication or suspicion of heart affection, a large sinapism, made with flour of mustard and hot water, is applied over and beyond the region of the heart; this is to be kept on as long as possible. After its removal, and after the skin has been properly cleansed, put on a blister of good size; and you must be guided as to the dimensions of it by your opinion of the extent to which the heart is affected. You need not be afraid of large blisters here, as in the treatment of the joints, because the inflamed organ is much more distant from the surface than the synovial or other articular tissues.

"If you pursue the plan which I have thus pointed out, and have drawn a large quantity of blood to the surface by the long-continued stimulation of mustard, you will generally succeed in producing very free and large vesication, from which you may obtain a considerable quantity of serum—or rather, I should say, of *liquor sanguinis*, for the fluid of the blister is serum containing more or less fibrine. If you examine the fluid from blisters, especially when the skin has been previously irritated by mustard, you will almost invariably find that it contains more or less of fibrine. In very many instances, if not in all, the coagulated fibrine disposes itself in a membranous layer in immediate juxtaposition with the deep surface of the elevated cuticle. On removing the cuticle slowly and cautiously, the serum will not flow away; it is still retained by a very complete, but soft, moist, and almost spongy membrane. This is coagulated fibrine, which has entangled in it a large number of the white corpuscles. How these latter escape from the blood-vessels, or whether they are not the result of the organizing tendency of the *liquor sanguinis*, I cannot pretend to decide. It is clear, however, that blisters will take away the *liquor sanguinis* with its dissolved elements, and perhaps the rudiments of the white corpuscles. By blistering you take away that part of the blood which is the great agent in the development of new formations, and these are what you have to guard against in the cardiac inflammations. Moreover, by blistering you spare that most important part of the blood, the colouring matter, which seems especially valuable for preserving the nervous functions in a state of integrity, and which is no less important for maintaining the healthy action of the heart.

"But some of you will say, 'What! do you advise us to lay aside that which has so long been regarded as the sheet-anchor in the treatment of inflammations—namely, bleeding; and not only general bleeding, but topical bleeding likewise? If we are neither to cup nor to leech in pericarditis or endocarditis, what security, then, shall we have against the progress of inflammation—against the formation of excrescences on the valves—against ulcerative or suppurative pro-

cesses being established in the heart, destroying its valves, and infecting the blood?" I am quite aware that the doctrine which I recommend for your adoption is likely to be regarded as extremely heterodox by many, but I believe the number of those who think so is daily diminishing. In the treatment of the cardiac affections which accompany rheumatic fever, you have two objects to keep in view—the first is, to check the morbid process completely, or to restrain it from producing such changes as may prove destructive to the tissues, and consequently to the mechanism of the heart; and the second, to obviate liquid effusions which may distend the pericardium, compress the heart, and so embarrass its actions, as well as the respiratory movements, as to prove seriously detrimental to life. Now, with regard to the first point, there can be little doubt that bleeding will not stop or prevent the formation of those fibrinous concretions which are so apt to form upon the valves. The formation of these concretions is in a great measure mechanical, and in certain states of the blood they would form around or upon any opposing material, just as fibrine will coagulate round the bunch of twigs by which blood is beaten as it flows from a vein. In this rheumatic state, the contractile tendency of fibrine is apparently increased, as is shown by the uniform formation of a tough buffy coat in the blood removed from rheumatic subjects; there is also a considerable increase in the number of white corpuscles; the buffy coat is formed of these two constituents, and the constancy of its formation denotes a tendency in these two elements to separate from the other elements of the blood in the rheumatic state. Doubtless, a disturbed state of the nutrition of the serous membrane or the endocardium, or of certain parts of them, precedes the formation of fibrinous deposits upon them; and this disturbance of nutrition is caused by the accumulation of the rheumatic matter in the vessels of the part. The effect of this is analogous to, if not identical with, that produced by a blister on the vessels of the skin, which I have just now described to you. The liquor sanguinis transudes through the parietes of the blood-vessels, and the plastic matter coagulates upon the surface of the endocardial and the pericardial membrane, forming there a substance identical, or nearly so, with the buffy coat of the blood. In the endocardium, which is in contact with the blood as it flows through the heart, this layer of plastic matter forms a nucleus, around which fibrine from the blood which flows over it may coagulate.

"Now, if this be a correct account of the manner in which the plastic concretions develop themselves in pericarditis and endocarditis—and I believe it is that which is most consistent with our present improved knowledge of the blood and of inflammation—it is evident that the object of the practitioner should be to prevent the development of that altered state of nutrition which *precedes* the fibrinous formation, or to arrest it prior to the pouring out of the fibrine. Will bleeding do this? I think our experience of the effects of bleeding upon the joints ought to convince us that it will not; for bleeding certainly will not remove the rheumatic state from them; for, however it may relieve for a short time, by diminishing hyperæmia, or by some influence on the nervous system, the flow of blood speedily

returns with as great, or greater, activity than before. I apprehend that the state of the joints and that of the heart are as nearly as possible the same, the difference being that the nature of the synovial secretion offers a much greater physical impediment to the formation of fibrinous or plastic concretions in the joints than exists in the endocardium or in serous membranes.

"And I will put another question—will bleeding cut short that state of blood which is so favorable to the formation of the plastic deposits? To this I answer likewise in the negative. Among the best of the modern researches upon the relative quantities of the elements of the blood in various conditions of that fluid, are those of Becquerel and Rodier. What do these observers say as to the influence of bleeding upon the blood? Why, that it considerably diminishes the red particles, that it very much augments the proportion of water, and that it affects but little or not at all the fibrine; thus, in short, you get a thinner liquor sanguinis, holding in solution the same, or nearly the same, amount of fibrine. In other words, you get a state of liquor sanguinis very favorable to transudation, and therefore very favorable to plastic formations.

"If, then, bleeding will not stop the inflammatory state which creates the undue determination of the blood to the pericardial and endocardial surfaces, and if it will not prevent the plastic formations, but rather favour them, surely it is not the remedy for pericarditis and endocarditis. And if the effects of venesection be—as beyond all doubt they are—to diminish all the solids of the blood but the fibrine, and to augment the water, surely the employment of this treatment is fraught with the greatest danger of creating liquid effusions into the serous and synovial sacs, which are so exposed to the action of the rheumatic matter."

The delirium which may happen in rheumatic fever, and in some other acute disorders, is regarded chiefly as a signal of distress—a signal denoting that the powers of the constitution are unequal to the severe trial through which the patient is passing. This symptom is much more apt to occur after bleeding, and in weakly subjects, than in sthenic cases or in ordinary cases in which depletion by bloodletting has not been practised. It is often, in Dr. Todd's opinion, an indication that the patient is being reduced too much by sweating, or purging, or some other means.

"If the patient have been sweating freely, that must be checked; the amount of bed-clothes may be reduced; if his joints have been enveloped with wool, it must be removed. In like manner, any other too free evacuation must be stopped, as purging, or the too copious discharge from a blister. Nourishment must be given very frequently, but in small quantities, so as not to embarrass the stomach; and this should consist of beef-tea, arrow-root, milk; and it will be always necessary to conjoin with this wine or brandy, or porter when that has been an habitual beverage, also to be given in small and carefully adjusted quantities. If the patient be wakeful, sleep must be procured by the free administration of opium. These are the points to which you will have to direct your most watchful care. Provide against your patient being allowed to exert himself beyond his strength; remember that it is in

this state that patients often die suddenly by syncope, and be careful to nourish and support them well. Eschew all local treatment to the head; even the application of ice is calculated to do mischief, by depressing the heart's action.

"When, however, the patient evinces a marked tendency to coma, then of course you will not use opium; I would advise you to shave the head, and to counter-irritate it and the back of the neck, by sinapisms first, and afterwards, if you find it necessary, by blisters, pursuing at the same time those measures for the support of the patient which I have already pointed out, and which, you may be assured, are not less necessary in the comatose cases than in those in which active delirium prevails."

Elsewhere Dr. Todd remarks:

"It was very remarkable, that notwithstanding extensive pericarditis and some endocarditis, our patient never exhibited any marked delirium. This is uniformly the case in acute diseases, erysipelas, fever, pneumonia, rheumatic fever, in which alcohol is given, as has been done in this case. Delirium is kept off by it. This formidable complication of acute disease ceases to trouble either the patient or the physician, if the former be duly supported from the beginning. And if delirium comes on, notwithstanding that you have been giving stimulants, you will generally find it desirable to give them more freely.

"This is a fact which I have so often verified, that I am enabled to enunciate it dogmatically, that alcohol, carefully administered, from an early period, in small and often-repeated doses, is the best preventive of, and antidote to, delirium in acute disease.

"Indeed, many of you who watch my practice know how rarely that symptom gives any trouble. It is altogether the merest trifle, as compared with what I used to find it when I adopted the so-called antiphlogistic treatment. And thus a great source of danger to life is avoided.

"This fact, as regards the influence of alcohol in the *prevention* of delirium, is one of the most important which the clinical observation of cases, treated by stimulants, brings out. It is quite inexplicable by those who refuse to study the action and the mode of digestion of alcohol, and who, adhering to old prejudices, rest content with a practice under which, to say the least, great mortality occurs, rather than be at the trouble of carefully investigating the powers of an important remedial agent.

"Another interesting point in this case deserves your attention. While our patient was getting well of the double pneumonia, pericarditis having already come on, a severe diarrhoea supervened, which depressed her very much. Did this contribute to relieve the pericarditis, as one might expect according to the ordinary antiphlogistic notions? On the contrary, immediately upon the attack of diarrhoea there ensued signs of pericardial effusion; the dyspnoea became much aggravated, and extended dulness on percussion was found to exist in a very marked manner over the cardiac region; the sounds of the heart became distant and muffled. Under the continued use of stimulants, for a short time in still larger quantity (an ounce per hour), with opium given more frequently, and free blistering of the cardiac region, these symptoms quickly subsided."

When the patient has begun to pass pale urine, in good quantity, either without precipitate or with a greater or less quantity of pale lithates, a more generous treatment is recommended by Dr. Todd, although the articular affection still continue troublesome.

"You may then give the patient ammonia, or quinine and sulphuric acid, and in many instances you may give wine or brandy; and I have been astonished at the rapidity of the progress of cases under this altered treatment; patients, whose symptoms had been stationary for two or three days, have, under the circumstances and treatment I have described, become convalescent in little more than forty-eight hours.

"The plan of treatment which I have now recommended to you does not contain any new remedy, nor does it profess to point to any summary method of treating rheumatic fever; it is merely the application of old and well-appreciated remedies to the treatment of this formidable malady, in furtherance of a certain determinate object—that of eliminating morbid matter, at various points and through different channels, from the current of the circulation. Since I have adopted this mode of treatment I have much more rarely met with those accidents of the disease—pneumonia, pericarditis, delirium, &c., which are so formidable to both the patient and practitioner, in the same severe form which I used to do under a more depleting treatment; and when such severe cases do occur in the hospital, they are generally persons who have suffered from a depleting treatment prior to their admission, or who have been thrown into a very reduced state from other causes. Again, I find that under this treatment the duration of the disease does not exceed from ten days to three or four weeks, and that relapses, which were very frequent under the treatment by bleeding, are of rare occurrence under this. Now, it was formerly the dictum of an eminent physician, 'that the only cure for rheumatic fever is *six weeks*.' By this he meant that the disease would take its course, that time was its only cure, and that this time was not less than six weeks. But I should not attach much importance to a plan of treatment which failed to get patients into a good state in a much shorter time than that. Our patient, Elizabeth Stocking, whose case has been a severe one, and who has had pericarditis and slight delirium, has been in the hospital now just eleven days, and had been ill three days prior to her admission, and you see that she is convalescent already. She has lost every rheumatic symptom; all the pains in her joints have ceased; her tongue is clean, and I have no doubt that in two or three days more she will be struck off the sick list altogether. And, as the last, though not least, advantage of this treatment, there is no fear of those unpleasant consequences which are so prone to follow in the wake of this disease; there is no fear of a tardy anæmic convalescence, for her blood has been spared; nor of a state of chronic rheumatism, for there is every indication that the whole of the morbid material has been eliminated from her system."

To give stimulants and nourishing food freely is, in a word, the chief part of Dr. Todd's treatment in all the cases recorded in this volume, and we are cautioned not to adopt an opposite or vacillating course, and to allow our patients to die of exhaustion, from a morbid fear of over-stimulation. Rapidity of convalescence is said to be not the least important feature of the cases treated by this upholding plan.

We are cautioned, however, to be especially careful to avoid throwing too much work on the digestive organs at any one time.

"Your supplies should be always administered in small quantities, more or less frequently repeated; never in a large amount at once. They should be well-timed, and the exact doses defined. When alcohol is being administered largely, animal food is best given in solution, as in broths or soups. The ability of the patient to take solid animal food may be regarded as the signal for diminishing the supplies of alcohol. Experience has taught me not to give two kinds of alcoholic fluid at the same time; do not give beer and wine, or wine and brandy; any one of them will agree better, because it will be more easily digested when alone.

"Patients often flush a good deal upon the first use of stimulants; this alarms the practitioner and deters him from prosecuting their further administration, or leads him to a vacillating practice, generally most injurious to the patient. It is a mere prejudice to suppose that any harm arises from this flushing of the face; generally it is an indication that the process of digestion, either of wine or spirit, or of other food,* is carried on with difficulty, and it will commonly cease by modifying the manner of its administration, such as giving him less at a time, and more frequently. Sometimes, indeed, flushing will occur because an insufficient quantity is given, and an increase of the dose will get rid of it, just as an inadequate dose of opium disturbs the nervous system, whilst a larger one calms it.

"In a word, I cannot too strongly impress upon you that, to do good with stimulants, you must use them early, with care and watchfulness, in very definite quantities, and not in a vacillating or timid manner. They are agents of inestimable value for saving life under all forms of acute disease, and I can say with truth, from a large experience, that the harm which they do (*in disease*) is grossly and unfairly exaggerated, and always due to the slovenly administration of them. The opponents of their use argue, from their outrageous abuse in health, against their careful and scientific use in disease, forgetting how essentially different must be the effect of sixteen or twenty ounces of wine swallowed down within an hour or two, along with other food, and the same quantity carefully distributed in half-ounce and ounce doses over a period of twenty-four hours. I say it after mature reflection and a long course of observation, that there is no point of therapeutics so deserving of the study of the earnest-minded physician or surgeon, who is zealous to save life, as that of the action of these agents, both in health and disease."

The terminal lecture, on the therapeutical action of alcohol, is one which will well repay perusal. Given properly—enough to keep up animal heat and to protect the tissues without embarrassing the stomach, and without allowing the fumes to be perceived in the breath—alcohol is regarded by Dr. Todd as a remedy of primary importance—as *the* remedy in the majority of cases. At the same time, enough is said to reeën the author from the imputation of encouraging the excessive and improper use of alcoholic drinks. As to the occasions on which alcohol may be administered, and as to the particular mode of ad-

* "The popular notion that alcoholic stimulants are not food, but a mere 'dash in the pan,' ought not to be encouraged by medical men in the present day."

ministration, the following passages will give all the necessary information.

"Alcohol may be employed in all those diseases in which a *tendency* to depression of the vital powers exists; and there are no acute diseases in which this lowering tendency is not present. Many such maladies will, doubtless, get well without the interference of art; cases of pneumonia, and of fever, for example, will frequently recover without the employment of any medicines. But take any case of pneumonia thus left to follow its own course, and after eight or ten days you will always find your patient more or less emaciated, and in a much more prostrate condition than on the accession of the malady. If, however, in such a case tartar emetic had been exhibited, or bloodletting practised, how much more depressed will be his condition! Hence the great importance of upholding your patient's powers whilst the natural processes of the disease are taking place. In pneumonia a peculiar effusion occurs into the air-cells, which after a while become filled, the lung itself becoming dense and solid. For the recovery of the patient all this effusion has to be absorbed, and the air-cells restored to their original condition. The processes which nature has to perform in the cure of this disease are highly complicated, and no one, I apprehend, will assert that we possess any drug which by its direct agency on the system can effect this object. In the accomplishment of these changes there is a considerable expenditure, as it were, of nervous force and of blood; and, therefore, we should supply to the system a kind of food which, while it is easily assimilable, is at the same time capable of upholding the nervous power and of maintaining the animal heat. And such a food is alcohol, which, as I have already pointed out, is assimilated in the easiest manner by a simple process of endosmosis, exercises a peculiar influence on the nutrition of the nervous system, and by its combination with oxygen in the body, supplies fuel for the maintenance of the animal temperature. When given in too large a quantity, alcohol passes out of the body unchanged in the air expired from the lungs; but when its amount is limited and proportionate to the real wants of the system, it is evolved in the form of carbonic acid and water, and promotes the secretion of the lung, the skin, and the kidneys.

"The successful use of alcohol in the treatment of disease depends very much on its *mode of administration*. Alcohol should be given in such doses as experience shows are assimilated with the greatest ease. Let me illustrate this by an example. If two individuals drink a bottle of brandy each, the one in the course of one or two hours, the other in doses of half an ounce every hour until the whole is consumed, the effect of the alcohol in the two instances will be very different. The former person will have become more or less intoxicated; or, in common language, '*drunk*,' unless he have been long addicted to large potations of brandy; but the latter will suffer but little general disturbance, except that the heart's action will be somewhat excited, and certain of the other effects of the ingestion of alcohol produced, but there will be no delirium, drunkenness, or coma. This difference in the effect of the alcohol in each case arises from the *mode of administration*. A difference of a similar character is also observable in the influence of some other medicines; for example, opium.

"In prescribing alcohol in disease, you should not order so much brandy, or other spirit, to be given *daily*; but you should direct a certain quantity—say a teaspoonful or a table-spoonful—diluted with water, to be administered every *half hour*, every *hour*, or every *two or three hours*, according to the nature of the disease and the actual condition of the patient."

And again :

"You will ask, what are the signs that too much alcohol is being given, and what are the indications which should suggest to the practitioner that he ought to diminish the quantity, or to withdraw it altogether.

"I must tell you, *in limine*, that it is far more dangerous to life to diminish or withdraw alcohol than to give too much. It is plain to common sense that, in the latter case, you may easily and quickly reduce the quantity, or suspend the use of alcohol altogether; but it is not so easy to make up for lost time, and to supply readily a want which had been felt for many days. Hence it sometimes happens that the withholding such a supply in the early period of acute disease, leads to the employment of a much larger quantity in the latter stages.

"The signs upon which I recommend you to place your chief reliance, as indicative of the supply being too much, are mainly referable to the digestive organs. They are such as show that the first stage of digestion—stomach digestion—is disturbed. Your patient will suffer from flatulence, frequent eructations, even sickness, dryness of the tongue and mouth, with some degree of sordes of the teeth and lips. Of course you will take pains to separate such symptoms as arising from too much alcohol, from similar ones as belonging to the disease.

"It is important that you should watch the effects upon the nervous system. When alcohol is given as I have recommended, it calms the nervous system, promotes tranquil sleep, from which the patient may be easily aroused, and *averts* delirium. If given in excess, either by large doses at once, or by too frequent doses, it tends to produce coma. In the first case, the quantity is disposed of partly by being appropriated to the nutrition of the nerve-matter, whether in centres or nerves, and partly by combustion and elimination, as carbonic acid and water. In the other case, there being more than sufficient for the normal wants of the system, a large proportion remains in the blood as alcohol, or passes into the more simple secretions, such as the fluid of the cerebral ventricles, and acts as a poison on the nerve-fibre and nerve-cell, disturbing their nutrition, so as to produce the phenomena of drunken or alcoholic delirium, or paralysing their nutrition and inducing coma.

"The coma and the delirium produced by an excessive use of alcohol are often difficult to distinguish from these phenomena, as forming part of an acute morbid process, and as indicating rather the need of a more active exhibition of alcohol. Although over-stimulation is of very rare occurrence in our practice, you will do well to be provided with some signs to distinguish it when it occurs. The following points are, I think, deserving of your attention :

"1. The coma of alcohol is not so profound as that of disease; and the patient who is suffering from the former may be more easily roused than in the coma from disease. It is a good plan in these cases, as a test between the two forms of coma, to sluice the head well with cold water.

The patient with coma of alcohol will much more readily respond to this than when the comatose state is part of the disease.

"2. By omitting the alcohol for two or more hours, and giving nothing but water for that time, and visiting your patient after the lapse of a short period, you will find the coma distinctly less if it have been excited by alcohol. But in such an experiment as this, you must watch the patient at short intervals, and be very cautious of withholding the stimulant for too long a time. I have often known patients sink irretrievably, through timid practice, when the alcohol had been too long withheld.

"3. The persistence of the exhalation of the fumes of alcohol by the breath may be regarded as a sign that too much is being administered. When the just quantity is given, the fumes are not perceived in the breath, or at most for but a short time after a dose has been taken."

These remarks and quotations will serve to convey a fair notion of the object and aim of the book under consideration. We are not prepared to agree with Dr. Todd in his estimate of the value of alcohol in the treatment of disease, but we quite agree with him as to the evils of the old antiphlogistic plan of treatment, and, so agreeing, we recommend the book as one which ought to be read by those of our readers who have yet to learn the heavy responsibilities they are incurring in blindly carrying out this plan of treatment.

On the therapeutics of Convulsive Diseases. By C. B. RADCLIFFE, M.D., F.R.C.P., Physician to the Westminster Hospital, &c. ('Lancet,' 23d June, 1860.)

The following remarks are from the Gulstonian Lectures on Convulsive Diseases, recently delivered at the Royal College of Physicians of London. Arguing from the physiological and pathological positions established in the former part of these lectures, Dr. Radcliffe infers that the fact of tremor, or convulsion, or spasm, can, in no single instance, be urged as a plea for the adoption of "lowering measures." He infers, indeed, that the great desideratum in every convulsive affection is a more vigorous circulation and a purer blood, and that the remedies to be sought after will be those which bring about these changes. He says—

1. I know of no facts which show that a low diet is beneficial in epilepsy. On the contrary, I know of many instances where the patient has been undoubtedly benefited by the abandonment of such a diet. The meals, of course, must always be regulated so as to guard the stomach from an overload of food; but of the two evils, abstinence is more to be dreaded than repletion. It would seem, indeed, as if the stomach of a confirmed epileptic can never be allowed to remain entirely empty, without some risk of an attack. As a rule, also, stimulants, of one kind or another, would seem to be very serviceable. In some cases, it is true, malt liquors may be objectionable; but in these cases it will generally be found that unquestionable good will result from a proper allowance of sherry, weak brandy-and-water, or, better still, of claret. Indeed, I am satisfied that epileptics, and nervous patients generally, will have good

reason to overlook the shortcomings of the recent treaty by which, at reasonable rates, they will be able to substitute the light wines of France for the fiery wines of Spain and Portugal, and the strong ales of our own breweries. Coffee, also, would seem to be a more suitable beverage than its less stimulating companion, tea, particularly at an early period of the day.

It is, no doubt, of extreme importance to prevent the accumulation of effete matters in the bowels, and to remove such accumulation when it has taken place; but whether purgatives are the proper remedies is not quite so certain. If the bowels do not act with sufficient regularity, there is, in all probability, some error in the diet—some excess of animal food, some deficiency of culinary vegetables and fruit; and the first thing to be done is, obviously, to correct this error. And this is often all that is wanted, if care be taken to explain to the patient that his bowels can act without purgatives, and that he need not—particularly if advanced or advancing in life—be altogether cast down if now and then they do not act every day. Indeed, if the diet be properly regulated, and this explanation made, the patient will generally have the satisfaction of finding his tongue clean, when he remembers to look at it, and of forgetting his stomach and bowels altogether. Or if the result be not quite so satisfactory, an occasional injection of cold water or brine, on getting up in the morning, will rarely fail to set matters right, and that without disturbing the digestion in any way, or producing disagreeable feelings of depression or irritability.

As to the rest, it appears to be advisable to order the habits in such a way as to save the strength as much as possible. Proper exercise is, of course, necessary; gymnastic exercises, by which the chest is expanded, and the respiratory capacity increased, are valuable adjuvants; but it is no less certain that muscular exertion upon or beyond the verge of fatigue must be looked upon as a common cause of the epileptic attack. As a rule, also, it would seem that epileptics require more than the average amount of sleep, to enable them to recover from the multifarious fatigues of the day and night.

The more strictly medical part of the treatment of epilepsy is a subject of no small difficulty. The treatment of the present day is very different from what it was when almost all disorders were referred to inflammation or over-action of one kind or other. Practically the lancet is now abandoned, and leeches are in a fair way of being left undisturbed in their swampy homes; practically, also, it has ceased to be the habit to distress the stomach and bowels by the frequent use of strong purgatives or emetics; and this change may be appealed to as an argument that "lowering measures" had disappointed the hopes of those who had tried them so long and so patiently, and who gave them up so unwillingly. Be this as it may, however, a great change has come over the treatment of epilepsy, and the remedies at present most in vogue in this country are certain preparations of zinc, copper, and silver, particularly the oxide of zinc and the ammonio-sulphate of copper.

The present fancy for oxide of zinc has been caught from M. Herpin, who has devoted a substantial volume to the purpose of showing that many cases of epilepsy may be cured by the vigorous and persevering use of this remedy. In this work, M. Herpin relates thirty-eight cases

of epilepsy or epileptiform disease, in nearly all of which he gave the oxide of zinc; but, as I have elsewhere shown, the favorable opinion of this physician as to the virtue of this medicine is by no means borne out by an analysis of these cases. It would appear, moreover, that M. Herpin himself has become less confident than he was in 1852, when he wrote the work in question; for a more recent statement is, "*quel l'oxyde de zinc, ne cessant point d'être convenable pour les enfans et les vieillards, échoue très souvent chez les adults.*" M. Delasiauve, who quotes these words, tells us that one reason for this change of opinion was the absolute failure of an experiment in the Bicêtre, in which one of the physicians of the establishment, M. Moreau, treated eleven adult epileptics in every particular after M. Herpin's method. M. Delasiauve also tells us that M. Herpin now gives the preference to the ammonio-sulphate of copper in the treatment of adults. I might argue, also, that his faith is even shaken in this remedy, for I have recently had more than one patient, who had previously been under him, in whose case he abandoned the copper after a very short trial, and trusted to a vegetable simple, of which I shall have to speak presently. Nor can I speak favorably as to the results of the trials, nine in number, in which I gave oxide of zinc after M. Herpin's method; and my experience in this respect agrees fully with that of my friend and colleague Dr. Marcet, who, more perhaps than any other man in this country, has put this mode of treatment to the test of experience. At the same time, it does not follow that zinc is of no value in epilepsy. On the contrary, the probability is, that it is a remedy of considerable value in the proper case and in moderate dose; and this opinion is not a little supported by the beneficial results which Dr. Marcet has recently found to attend its use in many forms of nervous excitability. Of the other preparations of zinc it is not necessary to speak, for there is every reason to believe that their action for good or evil is analogous to that of the oxide.

It is not easy to obtain any sound evidence of the value of the ammonio-sulphate of copper in epilepsy. Speaking of the cases recorded in his published work, M. Herpin says that, including relapses, he obtained eighteen cures in fourteen patients; but when these cures are fairly analysed, they do not turn out to be a whit more satisfactory than those which he ascribes to the oxide of zinc. Nor do I know of anything thoroughly satisfactory in the experience of others. For myself, I ought scarcely, perhaps, to express an opinion, for I have never given the medicine a fair trial; but I have met with several patients who have taken it under the advice of other physicians, and of these I have no hesitation in saying, that not a few, on being asked how they were affected, have said that they felt more nervous while taking it, and that no beneficial change was produced in the fits.

With respect to nitrate of silver little need be said. I have had three patients under my care whose skin, before they saw me, had been tinged of a dismal gray colour, and whose fits had been worse, rather than better, during the time they were taking the silver; and many cases are on record which show that this evil may happen without any counter-vailing good.

"Of all the metallic remedies," says Dr. Watson, "I should prefer some preparation of zinc or iron;" and I believe that there are signs of

change of opinion in the minds of many thoughtful men, and that before long iron may be placed before zinc, and not after it. If, as has been said, the inferences from the premises is that the desideratum in epilepsy is a more vigorous circulation and a purer blood, it is to be expected that iron may not unfrequently be wanted; and this expectation is not belied by my own experience. At the same time I must confess that there are many cases in which this remedy fails to bring about any beneficial result, and where harm rather than good may be said to attend its use.

In many cases, also, another common remedy, which is not mentioned in Dr. Watson's chapter on epilepsy, and which is also overlooked by almost every other author, would seem to do good. This is quinine. But with this remedy, as with iron, it must also be confessed that there are other cases in which, to say the least, the good done is not unequivocal.

In a word, it is exceedingly difficult, in the present state of our knowledge, to decide as to the value of these remedies in epilepsy; but that zinc is no specific, and that the common tonics mentioned are not of themselves sufficient, must, I doubt not, be the confession of every one who has had sufficient experience in the matter.

Where, then, must we turn for what is wanting? Is it to remedies of a directly stimulating character? Is it to remedies which may be supposed to purify the blood from certain matters which ought to be excreted, but which being retained produce a depressed or oppressed state of the circulation?

"If," says Dr. Watson, "I were called upon to name any single drug from which, in ordinary cases of epilepsy, I should most hope for relief, I should say it was the oil of turpentine. And I find that other physicians have come to the same conclusion. Dr. Latham the elder was, I believe, the first person who made known its efficacy in this disorder. Foville states that he has seen excellent effects from it. It is highly spoken of by Dr. Perceval in the 'Dublin Hospital Reports.' It is not given in large doses, but in smaller ones frequently repeated; from half a drachm to a drachm every six hours." And that turpentine is a valuable remedy in epilepsy, very valuable, I have no doubt whatever.

Another remedy which puts in its claim for approval is valerian. This is a very favorite remedy, both in this country and elsewhere, and its claims, though not equal to those of turpentine, appear to be in every way deserving of attention. Recommended by Aretæus and Dioscorides, and in use ever since, it was never other than a favorite remedy. Now the prominent action of valerian is that of a stimulant—an action depending upon the presence of a composite volatile oil, of which one portion is a volatile acid, capable of forming a salt with bases, and known under the name of valerianic acid; and it is a natural question, after what we know of turpentine, whether the stimulating action of the drug does not show that it may be efficacious, and explain the secret of its efficacy.

It is somewhat significant also, that the *selinum palustre* is one of the four principal remedies to which M. Herpin has pinned his faith; and not only so, but the one to which he gives precedence. These four remedies, ranked in the position belonging to them in an *ordre de mérite*, are—*selinum palustre*, ammonio-sulphate of copper, oxide of zinc, and

valerian. Now, *selinum palustre* is an umbelliferous plant, of which several grammes may be taken at once; and, on questioning three or four patients who have taken it, the answer was that they were warmed and comforted by it. In other words, its action would seem to be that of a feeble stimulant.

Under these circumstances, therefore—believing that a more active state of the circulation is a desideratum in epilepsy, and having these practical arguments in favour of turpentine and valerian—a sufficiently natural question was, whether camphor, naphtha, or ether in its various forms, or any of the stimulant gum-resins, or musk, or castor, or some other stimulant, would be of use in epilepsy. Nor, if I can read aright the lessons of my own experience, is the answer different from what might be expected.

That camphor is often a very valuable remedy in epilepsy I have no doubt in my own mind. In doses of about three grains, twice or three a day, for a time, I have seen such results as to justify me in ascribing to camphor all the virtues belonging to turpentine, with this addition in its favour—that it is not unpleasant to the taste, and that it exercises, or seems to exercise, a directly quieting influence over the generative and urinary organs.

Naphtha also would seem to have the advantages, without the disadvantages, of turpentine. In doses of from half a drachm to a drachm, and taken for some time, I have often had what seemed to me unequivocal evidence of its beneficial action. As a rule, also, a patient soon becomes indifferent to the taste, particularly if it has been redistilled more than once.

Of the stimulant gum-resins, my experience is not very ample; but I think I have seen enough to satisfy myself that, in several cases, they are of considerable value. Of musk and castor I have no experience.

With respect to the different forms of ether, Hoffmann's anodyne, chloric ether, spirits of nitric ether, and so on, there can, I think, be no doubt as to their great value as occasional remedies; and the same may be said of ammonia. In the majority of instances, it is only to this class of remedies that we can trust for warding off a fit. In some cases, also, ammonia would seem to be of much use as an alkali in a point of view of which we have now to speak. But however beneficial stimulants may be, it is necessary to confess that they will not do all that is wanted. It would appear, indeed, as if something were wanted which will carry out the second indication, and ensure—what has been spoken of as—a purer condition of the blood. Nor are we here altogether in the dark.

"About fourteen years ago," wrote Sir Charles Locock in 1853, "I was applied to by the parents of a lady who had had hysterical epilepsy for nine years, and had tried all the remedies that could be thought of by various medical men (myself amongst the number) without effect. This patient began to take *bromide of potassium* last March twelvemonth, having just passed one of her menstrual periods, in which she had two attacks. She took ten grains three times a day for three months; then the same dose for a fortnight previous to each menstrual period; and for the last three or four months she has taken them for only a week before menstruation. The result has been that she has not had an attack during the whole of the period. I have also tried the remedy in fourteen

or fifteen cases, and it has only failed in one, and in that one the patient had fits not only at the times of menstruation, but also in the intervals."

In using bromide of potassium in these cases, Sir Charles Locock's object was to calm an erotic disposition which attended and aggravated the epileptic symptoms, and this end may have been, and in all probability was, answered. But this is certainly not the only way in which this remedy acts beneficially. On the contrary, after trying it in scores of cases during the last two years, I can testify that bromide of potassium is a very valuable remedy in cases where there is not the slightest sign of an erotic disposition. I can testify, indeed, that this remedy has proved more or less serviceable in cases the most dissimilar in character—so serviceable that the name of Sir Charles Locock ought always to be remembered with gratitude by every epileptic, and by many suffering from other kinds of convulsive disorder. How to explain the *modus operandi* of this medicine is no very easy matter; but I am inclined to think that this, in part at least, is by an alterative action upon the blood analogous to that produced by iodide of potassium and common salt—an action by which, possibly, the blood may be kept free from compounds analogous to uric acid. And this I do, because for a long time I have found decided benefit from occasional doses of a mixture containing bicarbonate of potash and iodide of potassium, with or without a drop or two of tincture of colchicum or wine of white hellebore. At any rate, the alkaline character of the compound would seem to be necessary in some cases; for on looking over about thirty cases in which I tried bromide of iron, as well as bromide of potassium, I find that in the majority the latter preparation had a more beneficial action than the former.

At any rate there can be no doubt that a healthy action of the kidney, and of every organ by which the blood is kept in a state of purity, is essential to the successful treatment of epilepsy.

But, it may be asked, what is to be said of the thousand specifics which have been recommended from time to time? What, amongst others, of strychnia, belladonna, conium, cotyledon umbilicus, poudre de Neuchâtel, tracheotomy, and cauterizations?

Strychnia, as all know, was a favorite remedy with the late Dr. Marshall Hall; but the dose was attenuated to such a degree as to render it somewhat difficult to believe that much good came of it. Dr. Hall, indeed, distinctly allowed that harm is done if the dose be sufficient to produce the physiological effects of the drug.

Belladonna—a remedy recommended by Stoerk, and used some years afterwards by MM. Debreyne and Bretonneau—has been again brought into notice by M. Trousseau. M. Trousseau says he has employed this remedy for twelve years, and always had under treatment from eight to ten patients. He says, further, that of 150 persons so treated, twenty have been cured, or, at any rate that their fits have not returned; and that M. Blache, who employed it during the same period in a large private practice has met with a like proportion of successes and failures. It is a fair question, however, whether 13 per cent. of successes (which may, possibly, in part at least, be explained in a different way) can be regarded as sufficiently conclusive evidence in favour of the remedy; and this the more, as other practitioners, M. Delasiauve amongst the number, have been less successful. Judging from my own experience, my impression would be that belladonna is of very doubtful value.

Nor is a more favorable conclusion to be drawn respecting *conium*. I have tried this remedy in several cases, in small and also in full doses; but the result was no more satisfactory than that which had been already arrived at by Professor Schroeder Van der Kolk.

With regard to *colydon umbilicus*, it is not very easy to believe in any powers beyond those which may be derived from the imagination acting upon a new and innocent medicine. It is very possible, also, that some part of the benefit, where there has been any benefit, may be ascribed to the leaving off of some less innocent drug.

Poudre de Neuchâtel is a remedy which has some credit in Switzerland, and which has lately been brought prominently under our notice by having been given in some of the cases recorded by M. Herpin. And what is this remedy? It is none other than the powder of *tanpe grillé*—in plain English, fried mole. It is, indeed, a relic of the days when animal remains, of a more objectionable character, fried or otherwise, were offered to the unhappy epileptic. In justice to M. Herpin, however, it must be said that he does not *believe* in this out of the way remedy. He only tries it when other remedies have failed.

And certainly it must be allowed that *tracheotomy* does not realise all the original hopes of Dr. Marshall Hall. It does not prevent convulsion. It does not always, perhaps usually, make the convulsion slighter. It does not prevent danger, for (as I have shown elsewhere) of the few patients upon whom the operation was performed, three have died either in the fit, or in connexion with the fit, and of the three the opening was free from all obstruction, at least in one. The first two cases, indeed, were calculated to damp the hopes of any one less sanguine than Dr. Marshall Hall. In the first case, the patient was a boatman, aged twenty-four, epileptic for seven or eight years, and whose fits were frequent and severe. The operation was performed by the late Mr. Cane, of Uxbridge, during a fit of "asphyxial coma," which had lasted nineteen hours. The relief was immediate, and for some months afterwards the fits were absent; but unfortunately for the credit of the operation, the patient, not liking the gurgling noise and the muteness consequent upon the unnatural opening in his windpipe, *had chosen to wear the tube with its opening carefully corked up*. This information I had from Mr. Cane himself. Very soon afterwards the man was lost sight of, having been discharged from his situation for drunkenness. In the second case, that of a woman, aged thirty-six, *death happened in a fit* about twenty months after the operation, and it is certain that the tube was open at the time. It is certain, also, that the fits continued after the operation, possibly a little less frequently and severely, but decidedly of the same character.

As to the value of *cauterizing the larynx*, it is less easy to come to a conclusion. Dr. Brown-Séquard says that a third of his epileptic guinea-pigs were cured by this mode of treatment, and that all the rest, with the exception of two or three, were relieved; and he suggests a similar mode of treatment in epilepsy. A little later, Dr. Eben Watson, of Glasgow, recommended a similar mode of treatment, and relates three cases—two by himself, and one by Dr. Horace Green, of New York—in which the treatment appears to have been carried on with benefit. Dr. Brown-Séquard also lays stress upon *cauterization in other parts*, as

in the nape of the neck, and especially in the neighbourhood in which the aura originates, and he prefers the moxa or hot iron to milder measures. This practice, he tells us, proved very successful in his epileptic guinea-pigs. In a word, Dr. Brown-Séquard furnishes us with some additional facts in favour of *counter-irritants* as a means of cure in epilepsy; and not only so, but he gives a hint which may prove to be of some practical value, in pointing out the larynx, and the locality in which the aura originates, as sites in which "counter-irritation" *may be* especially serviceable. Now, the verdict of past experience is very much in favour of counter-irritants, and I can well believe that this verdict is true—true because the inflammation caused by the counter-irritant may for the time rouse the sluggish circulation of the epileptic towards a pitch of safety, and because the discharge may tend to rid the blood of some impurity; but my own experience in this matter is too limited to enable me to arrive at a sound conclusion.

With regard to the treatment of the epileptic fit, little need be said. As a rule, it will be only necessary to take care that the patient does not injure himself; that the head is not allowed to hang too low; and that any necklace or neckerchief be loosened. If salt be at hand, a spoonful may be put into the mouth; if water be within reach, a little may be sprinkled upon the face, though the advantages of such a practice are scarcely sufficient to compensate for the disadvantages and risks arising from wetted garments. In ordinary epilepsy, it can scarcely ever be necessary to have recourse to chloroform, as it may be in some prolonged epileptiform affections; but if the convulsive stage is unusually prolonged, no remedy would seem to be more appropriate and effectual.

In concluding these brief remarks upon the therapeutics of epilepsy, we may say with Marshall Hall—"There is no royal road to the cure of epilepsy. The idea of a remedy for the disease is unphilosophical; and the treatment should consist in a well-advised plan, embracing every means of good, and avoiding every means of harm."

2. A single word must serve for what has to be said upon the therapeutics of other convulsive diseases. Where these diseases are of a chronic character, whether the convulsive symptom be tremor, convulsion, or spasm, it matters not which, there appears no reason for adopting an opposite plan of treatment to that which has appeared to be necessary in ordinary epilepsy. Nor does the case appear to be different where the convulsive symptom is associated with disease of an acute character. Inflammation, in itself, is no longer regarded as a sound argument for the adoption of lowering measures; and if inflammation in itself does not call for these measures, it certainly does not follow that a louder call is made by the occurrence of tremor, or convulsion, or spasm, before or after the inflammation. On the contrary, the natural inference from the premises is, that the convulsive movement might often have been prevented by more carefully husbanding the strength of the patient. According to the premises, indeed, the presence of tremor, convulsion, or spasm, would be a reason for transfusing blood, rather than for abstracting blood, except, perhaps, in one single case, and this is where, from the unusual prolongation and severity of the asphyxia in a first attack, there is danger of hæmorrhage into the brain or lungs. And certainly there is no practical objection to this view, for all must

admit that we have no reason to be satisfied with the results of a lowering plan of treatment in acute convulsive disorders.

The Causes and Treatment of Imperfect Digestion. By ARTHUR LEARED, M.B., M.R.I.A., Physician to the Great Northern Hospital and to the Royal Infirmary for Diseases of the Chest. (12mo, London, Churchill, 1860, pp. 224.)

Dr. Leared's aim—and in this respect he has certainly not missed his mark—has been to write a short rather than a long book upon this comprehensive subject. Though short, however, the reader will find a good deal of matter which is not known to every one, and which ought to be more generally known than it is, respecting the physiology of digestion, and the causes, symptoms, and treatment of dyspepsia.

In looking over the volume, we have been most struck with the remarks upon the causes of heartburn, and upon the doubtful value of pepsin as a medicine. Butyric acid, in Dr. Leared's opinion, is the cause of heartburn.

"From the testimony of many patients, as well as my own experience, I maintain that heartburn is usually attended by the ejection from the œsophagus of a very small quantity of acrid fluid, frequently described as a single drop, causing a peculiarly disagreeable and occasionally a greasy taste in the mouth. Gas from the stomach sometimes accompanies the drop, and to this is probably due the idea conceived by some patients, that the sensation resembles the 'passage of hot smoke.'

"On considering the taste experienced as well as the conditions under which heartburn comes on, it seemed to me that the cause of it was the presence of butyric acid. This acid is a product of deranged digestion; and the disgusting smell of vomited matters from which I have, by distillation, obtained butyric acid in considerable quantity, is chiefly caused by it. Heartburn is very generally induced by eating food in which butyric acid already exists, as pastry, &c., and the acid appears to be also formed out of its elements in the stomach. The removal of heartburn by alkalies also afforded proof that it was caused by an acid.

"But if my supposition were correct, heartburn would be produced by the passage of butyric acid down as well as up the œsophagus. To test the matter I obtained some pure acid, and experimented on myself and on two gentlemen, who, from actual experience of true heartburn, were competent judges. The plan adopted was to dip a pill of manna stuck on the point of a long needle into butyric acid, either pure or diluted. The pill was then carried by means of the needle to the back of the tongue, without touching the interior of the mouth, and swallowed. The taste and sensation produced in the œsophagus were pronounced in every instance to be identical with those of ordinary heartburn, but varying in degree according to the strength of the acid; and in the case of one of the gentlemen, the sensation extended to the cardia. Moreover, as in heartburn itself, a small quantity of alkali at once gave relief.

"My explanation of the production of heartburn, founded on the pre-

ceding observations, is as follows:—In certain weak conditions of digestion, or when it is overtaxed, butyric acid is set free from food in which it existed, or else it is formed out of the elements of starchy food, as is well known to be possible. The acid being in excess, but not pure, or else it would be soluble, rises to the surface of the contents of the stomach, where it probably combines with melted fat, with which it is so miscible that it appears to possess an affinity; when, by the motions of the stomach, presented at the cardia, the acrid mixture is instinctively rejected into the œsophagus, and is then by a reversal of its proper movements transmitted to the mouth, accompanied by the sensations of heartburn. The miscibility of fat with butyric acid will explain the relief of heartburn by cod-liver oil. It acts by diluting the acid."

The remarks upon the comparative worthlessness of pepsin as a medicine are, we think, more calculated to carry conviction to the mind of the reader, and of more practical value.

"I was lately induced to give pepsin, the new remedy for dyspepsia, a fair trial. Its effects, however, in no way answered the expectations I was led to form. My patients, in general, declared that they derived no advantage from it, and any favorable reports were qualified and inconclusive. In a disorder of such variable intensity as dyspepsia, we are particularly exposed to fallacies of the *post hoc propter hoc* description. Our results should be decisive, and at least tolerably uniform, before we accept them as effects of treatment.

"As, however, pepsin is favorably regarded by some physicians of repute in London, I resolved to examine it experimentally, and propose to lay the results before the reader.

"The specimen selected for examination, obtained from an accredited source, was labelled 'Pepsine de Boudault, No. 1; dose—fifteen grains between thin slices of bread;' and of this preparation it is stated that, being acid, it 'possesses all the properties of gastric juice.' With this preparation I made a number of experiments. Finely minced pieces of roast mutton were introduced into large test-tubes containing either the starch and pepsin powder in distilled water, or else the pepsin alone in solution—the starch having been separated by filtration. The proportions of meat and of pepsin were in every instance accurately noted. The test-tubes were kept as nearly as possible at a temperature of 100° Fah. for forty-eight hours, and were shaken as often as convenient.

"It will be sufficient for my purpose to give the results of these experiments.

"Fifteen grains of the powder, or a solution made by soaking the same quantity some hours and filtering, were found insufficient to dissolve one drachm of mutton. In order to reduce the meat to the condition of a greyish finely divided deposit, an equal weight of the powder was necessary. When the proportion of the compound was greater, as fifteen grains of it to five grains of meat, the reduction was more complete, the muscular fibrillæ presenting, under the microscope, an appearance resembling fatty degeneration. In no instance was this reduction accomplished in less time than eighteen hours.

"Like urine, gastric juice has a wide range of specific gravity. In other words, the solid contents in different specimens bear very different

relations of quantity to the water by which they are held in solution. But let us take M. Boudault's own statement. He says—'The quantity of water which the gastric juice contains is considerable; it is 97 per cent. of the liquid secretion in its greatest state of purity; there is about 1·25 per cent. of pepsin. There remains consequently 1·75 per cent. for salts.' According to other authorities, the total organic matter of gastric juice contains but a very small proportion of pepsin.

"But admitting the organic matter obtained from the gastric juice of animals by M. Boudault to be nearly pure pepsin, or, what is practically equivalent, admitting it to contain a natural proportion of true pepsin, let us examine a little further.

"M. Boudault tells us that, after various experiments in reference to the preparation and action of pepsin, he fixed upon its combination with starch. He says—'The amount of starch to be added should always be specially determined, otherwise we should not obtain a product possessing constantly the same digestive power. Now, it is of the utmost importance that a medicine should always have the same properties. I have once more availed myself of artificial digestions to determine the digestive power. I add, in fact, starch gradually in such quantities to the pepsin, that a gramme (fifteen grains) of the mixture is in a position to digest four grammes of dry fibrine, or that it will in the stomach cause the meat of a mutton-chop to be digested.' Admitting that it is necessary to determine in the manner related the quantity of starch to be added, M. Boudault should have informed us how much of the active principle combines with the inert starch.

"I shall not trouble the reader with details; but the following statement, founded on repeated trials, may be relied on. The specimens of Boudault's pepsin, used in my experiments, did not contain more than three grains of soluble matter in fifteen grains of the powder. And M. Boudault informs us that 'acidified pepsin is soluble in all proportions in water.' But to meet objections on the score of loss, I shall assume that it contained 3·75 grains.

"Modern research has proved that the quantity of gastric juice requisite for the digestion of a meal is very considerable.

"According to one estimate, the amount secreted in twenty-four hours is equal in weight to a fourth of the weight of the entire body of the individual. At all events, the fluid is to be estimated by pounds rather than by ounces, and the total amount of pepsin is proportionably large.

"Let us assume then that 3·75 grains of soluble matter or pepsin are contained in 15 grains of M. Boudault's powder. To make an artificial juice with the above quantity of pepsin, according to his own analysis of the normal juice, this would be the formula :

Pepsin	.	.	.	.	.	3·75 grains.
Salts	.	.	.	.	.	5·25 "
Water	.	.	.	.	.	291·00 "
						<hr/>
						300·00 or 5 drms.

"If, then, we liberally estimate 15 grains of M. Boudault's powder as

equivalent to five drachms of gastric juice, how inconsiderable, if any, must be the assistance which such a dose of pepsin can render the stomach. If, on the other hand, we take the low estimate that twelve ounces of gastric juice are required for the digestion of a mutton-chop weighing four ounces, then 285 grains of M. Boudault's powder, or a dose nineteen times larger than he recommends, will be the equivalent.

"Notwithstanding the assertion of M. Boudault, that fifteen grains of his powder in the stomach 'is in a position to digest' a mutton-chop, I imagine further comment to be unnecessary. Out of the stomach the same quantity of so-called pepsin dissolves with difficulty a piece of mutton the size of the tip of the little finger.

"I am forced to the conclusion that any advantages derived from the use of pepsin have been through the medium of the mind rather than of the body. An organ so impressible as the stomach would probably be sometimes thus indirectly benefited by a remedy of such plausible intention. That, however, is not the legitimate action of medicines."

Croonian Lectures on Intestinal Obstruction. By WILLIAM BRINTON, M.D., F.R.C.P., Physician to the Royal Free Hospital, &c. ('Lancet,' vol. ii, 1859.)

Of the many points of interest contained in these elaborate and very able lectures, the three following appear to us to be most deserving of attention, namely, the doctrine which Dr. Brinton considers to be the key to the natural history of intestinal obstruction, the summary of an extensive inquiry into the anatomy and varieties of this affection, and the principles which ought to guide us in the treatment.

It was formerly supposed that *faecal vomiting* was effected by an anti-peristaltic movement of the intestinal canal; that, at a certain stage of intestinal obstruction, the natural peristaltic action of the bowel above the occluded point was reversed; so that, instead of proceeding towards the anus, or lower outlet, as heretofore, it took the contrary direction; thus impelling the intestinal contents in a similarly retrograde course, so as to return them to the stomach, whence they were vomited. Vomited, it would seem, in the opinion of some authorities, by a prolongation or continuance of the same anti-peristalsis backwards through the pylorus to the cardia: in the opinion of others, by an action of this kind, only differing from the reversed movement of the bowel in its having the stomach for a second starting-point.

In opposition to this theory, however, Dr. Brinton advances the following considerations:—

1st. Amongst the numerous writings which affirm an anti-peristalsis, there is not one which substantiates its occurrence. The supposed movement has never been observed, far less seen to concur with obstruction, and to produce *faecal vomiting*.

2d. In vivisections of animals in whom the intestine has been artificially obstructed for some days, its movements are seen to be more evidently and uniformly peristaltic than in the normal state, owing to an increase in the energy of the movements themselves—an increase such as may often be directly verified in the obstructed

intestine of the human subject, by inspection and palpation of the belly.

3d. An anti-peristalsis is supposed to be caused by an over-irritation at the obstruction, inverting the natural action of the bowel. Hence, irritation is regarded as the first link in the chain of its causation. Now we can scarcely name any other morbid state of the bowels in which an over-irritation is not present; or show any deficiency in the degree or kind of irritation associated with many intestinal diseases, such as would, on this view, exclude or prevent an anti-peristalsis. But while the alleged cause is thus a common incident of intestinal disease, the alleged effect—*fecal vomiting*—is not only rare, but is strictly limited to instances of occlusion of the tube. Hence, the mechanism of the process must be sought, not in any chain of causation begun by mere irritation, but in the single fact—occlusion—which is at least its conditioning cause.

4th. The necropsy of cases of obstruction positively refutes the notion of an anti-peristalsis. No matter how many days *fecal vomiting* may have lasted before death; no matter (that is) how long the anti-peristalsis alleged to cause this vomiting must also have preceded that event; an inspection of the obstructed bowel always affords irrefragable evidence that the general direction of the intestinal movement, and the general course of the intestinal contents, has been downwards to the obstructed point, and not upwards from it. In other words, though an anti-peristaltic movement, of ten or twenty days' duration, rolling backwards the contents of the bowel with frequent and violent muscular writhings (such as can be felt through the wall of the belly), ought to have rendered the calibre of the intestine at least uniform throughout, if not greatest at the duodenal end towards which the movement had set, the necropsy always shows a condition precisely the reverse of this. That part of the bowel which is supposed to be the chief and original seat—the starting-point—of the inverted action (namely, the obstruction) evinces the least proof of its having occurred, and is by far the most distended segment of the whole tube; so that the intestine, tapering away from this broad base upwards or backwards towards the duodenum, forms a kind of cone, and generally dwindles to comparative or absolute emptiness before reaching the pylorus. Its appearances are, in fact, closely akin to those seen in any other distensible tube (such as a gall-duct or ureter), the fluid contents of which have been actively propelled by its own contractions towards a strangulated point.

5th. While the supposed anti-peristalsis might fairly be expected to extend, like the irritation causing it, beyond the occluded point, both observation and experiment show that, long after the occurrence of obstruction, the bowel at and below the occluded point often empties itself by propelling its contents in the normal direction. So that, on the theory of an anti-peristalsis, the irritation of a given part of the bowel renders it the starting-point of two precisely opposite movements—one upward towards the stomach, one downward towards the rectum. And while, as above noticed, the former (supposed) movement not only fails to empty the segment it starts from, but always permits its extreme distension, the latter, on the contrary, generally

empties and contracts its corresponding segment of the intestine to a tube with a thick wall and a narrow calibre, like the stem of a tobacco-pipe.

6th. A comparison of the symptoms and appearances in some cases of obstruction affords a specific disproof of all anti-peristalsis above the occluded point. In spite of the persistence of fæcal vomiting, castor oil, crude mercury, and other substances easily identified, which have been taken into the stomach shortly before death, are shown by the necropsy to have traversed the whole intervening length of intestine, to be only stopped by their reaching the strangulation itself.

Hence the notion of an anti-peristalsis is contradicted, not only by direct observation, but by those collateral circumstances which ought to have afforded scarcely less valid proof of its occurrence. On the other hand, a careful study of the phenomena of intestinal obstruction, as witnessed in the human subject, and produced in experiments on animals, lead Dr. Brinton to the following theory.

The movement proper to the healthy intestine is a circular constriction or peristalsis, which, travelling slowly down its muscular wall, propels its contents in a direction from the stomach towards the anus. And when any part of the intestine has its cavity obliterated by an immoveable mechanical obstacle, its contents, propelled by such a peristalsis, are stopped at the obstructed point. Here they gradually accumulate, so as first to fill, and then to distend, a variable length of the canal, with a more or less liquid mass. But a peristalsis, engaging the wall of a closed tube filled with liquid, and falling short of obliterating its calibre, sets up two currents in that liquid—one at the surface or periphery of the tube, having the direction of the peristalsis itself, and one in its centre or axis, having precisely the reverse course. Those particles of the liquid which are in contact with the inner surface of the tube are propelled onwards by the muscular contraction of its wall. And this propulsion is necessarily accompanied by a backward current in those particles which occupy the axis or centre of the canal.

The facts and the theory of fæcal vomiting may, therefore, be thus associated. In most cases of intestinal obstruction, the patient vomits matters evidently fæcal. The appearance of these matters, and the subsequent necropsy, often conclusively show that they have traversed a great length of intestine in a direction towards the stomach; that they have returned, for example, to this organ from an obstruction seated in the lowest part of the ileum, or even in the colon. This reflux is the result of the intestinal peristalsis; which, acting on an obstructed and distended bowel, not only effects the ordinary propulsion of its contents towards the obstacle, but also gives rise to what is, theoretically, a backward current in the liquids occupying the centre of the tube; practically, a tendency to such a current. However interfered with by other movements, abdominal or intestinal, this tendency has sufficient energy to effect a more or less intimate mixture of the intestinal contents; and to return some of them from the obstructed part, to a higher segment of the canal; generally, indeed,

to the duodenum or stomach, whence they can be expelled by vomiting.

Amongst the circumstances which modify this process are the following:—1. The dilatability of the obstructed bowel; which, on the one hand, by yielding to the pressure of peristalsis, delays and opposes the axial current; while, on the other (since the intestine acquires much of its increased width at the expense of its normal length) it diminishes the length through which this current must extend to provoke faecal vomiting. 2. The paralysis which, sooner or later, results from increasing distension, removes, as it were, the point of reflection of the peristalsis, or the commencement of the axial current, to a higher point of the bowel. 3. In the large intestine, the presence of hardened faeces above the obstruction seems sometimes to have a temporary effect of the same kind; the impacted mass forming a secondary obstruction, to and from which the peristalsis, and its reflected current, respectively tend. A somewhat less solid consistence of the matters originally present at the obstructed part may also suffice to prevent (or, at any rate, to defer) their transmission backwards towards the duodenum. Lastly, the vigour, frequency, length, and duration of the peristaltic movements of course influence the establishment of these currents; and the completeness of that mixture, which is their chief practical result. From reasons of this kind, the ingestion of frequent and copious draughts of water by an animal with an obstructed intestine, is sometimes associated with a vomiting so immediate and energetic, as to return this liquid from the stomach or duodenum, scarcely altered save in its having acquired a greenish, bilious colour; and certainly devoid of faecal odour, as well as of any admixture of the intestinal contents afterwards found at the obstruction.

Having deduced, both from the process of obstruction generally, and its details in these varieties that, as a rule, its greatest danger is that of undue rapidity; that, in other words, distension, pain, inflammation, rupture, gangrene, &c. (all increased by whatever hastens the accumulation of intestinal contents above the obstruction) are the causes of death (a fact singularly confirmed by the statistics as to the dates of deaths and recoveries), Dr. Brinton passes on to consider the treatment. Purgatives he condemns as unnecessary and hurtful in all stages. Nature, indeed, is in every case preparing the best purgative, and that with a rapidity requiring rather to be diminished than increased. The details of a variety of measures are next dwelt upon, and the following is a summary of the treatment suggested by the foregoing remarks for the several forms of obstruction :

In intus-susception of the large intestine, repeated injections of liquid into the rectum, so as to distend the bowel to its utmost dimensions.

In stricture of the large intestine, the institution of an artificial anus above the obstacle.

In obstruction from bands, diverticula, &c., mostly affecting the small intestine, gastrotomy, and division of the cord-like cause of strangulation, a procedure which, if interrupted by unforeseen impediments, may further require the institution of an artificial anus in the most distended part.

In obstruction by stricture, however, a tobacco enema should be administered at least once; a measure which should be repeated, if need be, in obstruction by bands, and especially by gall-stones.

In all cases, opium and support to be freely administered from the earliest stage of the malady. The bulkier liquid constituents of the food to be given as sparingly as possible by the mouth, but administered freely per anum. Distensive enemata to precede all operations, if only as a means of aiding or assuring diagnosis. Where vomiting is excessive, nourishment to be also injected into the rectum in small and frequent doses.

After recovery, all food which can introduce indigestible substances into the intestine should be carefully avoided; the bowel having sometimes undergone changes of calibre and arrangement such as permit substances easily transmissible through the healthy canal to cause fatal obstruction.

On Diseases of the Throat, Epiglottis, and Windpipe, including Diphtheria, nervous Sore-throat, displacement of the cartilages, weakness of the voice and chest; their symptoms, progress, and treatment.
By GEORGE D. GIBB, M.D., M.A., Physician to the St. Pancras Royal Dispensary. (Post 8vo, London, Churchill, 1860, pp. 182.)

Dr. Gibb's work is more than a manual of the special subjects upon which it treats. It contains, indeed, much information which is not

to be met with elsewhere, and which is well worth the attention of the reader.

The remarks upon saccharine throat, upon the use of senega emetics in place of tracheotomy in croup, and a curious case of dislocation of the os hyoides, will serve as fair samples by which the quality of the whole may be tested.

"The appellation, *saccharine throat*, may seem to be, at first sight, peculiar; but I have now distinctly recognised it many times. It is one of considerable importance, and therefore worthy of notice. It may here be stated, however, that in another place a paper will shortly appear from my pen upon 'the atheromatous expression,' a remarkable yet very striking feature characterised by indication in the countenance of certain changes going on in the system generally, but especially of the conversion of the saccharine element (now called hepaticine or amyloid substance) into fat and its compounds, which either become deposited in various parts of the body, producing polysarcia, or else causing a fatty disintegration of the tissues, associated with an atheromatous ulceration of the lining membrane of the cerebral and larger blood-vessels. In individuals so circumstanced, but especially when this form of malady is present in the middle-aged, a dry throat and husky voice are oftentimes concomitant, the result of the changes going on in the vocal apparatus, as well as in other parts of the body. Occasionally there is a preternatural secretion from the faucial mucous membrane, which, if examined, is observed to be covered with a thin layer of gelatinous matter, in which the fatty element predominates. When this secretion is removed, the fauces and mouth, in some individuals, are observed to be very greasy, the mucous follicles are slightly prominent, and would seem to pour out an oily fluid. The patient's tongue is slightly furred, and he tells you that he has a sweet taste in his mouth, and that when he eats his food, it not unfrequently tastes as if sugar was mixed with it. He frequently hems very loudly to clear his throat, and occasionally the noise is of a barking or cracked character. This, in reality, depends upon what has been erroneously termed early ossification of the cartilages, but which consists of a calcareous degeneration, with a mixture of the adipose, or perhaps atheromatous element. The face has a greasy aspect, the nose and both upper and under lips seem as if slightly swelled, the eyes are bright and watery, there may be an arcus adiposus, and the conjunctivæ look fatty. The skin of the face is smooth and even, and often covered with many small red vessels, ramifying in patches of a stellated form. There may or may not be corpulence; it is by no means a necessary accompaniment. The patient will consult his adviser for a cold which seems to hang about him, and on examining his throat the conditions mentioned will be noticed. If the irritation about the epiglottis has been rather annoying, with some cough, redness of the mucous membrane will be visible. There is no necessary connection between this affection and diabetes, because of the sweet taste of the mouth; nevertheless, I have occasionally noticed a small quantity of sugar in the urine.

"Now, cases of this kind often prove very troublesome, because it is almost impossible to overcome the conditions producing the symptoms. It has been the custom with many physicians to exhibit alkaline reme-

dies in such instances, with the view to neutralizing the acid secretions of the stomach—when these have depended on the remarkable predisposition, in such cases, to the formation of sugar and its acids in that organ, and which are absorbed into the blood as such, and deposited as cholesterine, or as fat, into some of the most important tissues. The treatment which has seemed to be the most useful in my hands, is half-drachm doses of the dilute nitric acid of the London Pharmacopœia, combined with the nitrate of potass, and some stomachic; carefully regulating the bowels. Sometimes I substitute the aromatic sulphuric acid, with sulphates of potass and iron. The diet should consist of meat once a day, and that mutton; it should be light, yet nutritious, carefully abstaining from *all malt beverages*, which, in certain constitutions, is the great cause of fatty conversions, degenerations, and disintegrations of tissue. Instead of the latter, weak whiskey or gin and water should be taken.

“If the transformation of sugar into fat has not progressed too rapidly, and the atheromatous expression is only developing itself, the effect of the nitric or sulphuric acid will be to arrest the destructive power of the saccharine assimilating processes in the stomach, and a marked improvement will ensue. But unfortunately these cases do not always come sufficiently early under treatment, to receive all the benefits so desirable.

“Although this form of throat affection has been familiar to me for the last thirteen years, and has not been before described, I feel satisfied it will be readily recognised by physicians, in connection with the atheromatous expression, and will be found worthy of the name and the importance which are attached to it.”

In preferring emetics of senega to tracheotomy, Dr. Gibb says :

“I am free to admit that the operation *has* saved life in a few instances, and it must not be discarded in croup. Moreover, I will assert that when it has proved unavailing, it has not been due to that proceeding itself. Notwithstanding all this, however, we are justified in trying the most powerful revulsives, in preference to tracheotomy. Emetics of a *very strong decoction* of senega are what I have used in desperate cases, and what I have found serviceable in saving life and effectually expelling the fibro-albuminous exudation. But the senega must be used with an unsparing hand as to the strength of its decoction—it can do no harm whatever; and I generally prepare it myself for administration at the residence of the child, and give it with my own hand. In three instances that were looked upon as utterly hopeless, and too bad almost for tracheotomy, the strong decoction of senega saved life, expelled the false membrane, prevented its reformation, and a cure resulted. The way of preparing this decoction is as follows: Take two ounces of the good root of senega, well bruised or broken up, and boil it in a pint and a half of water in a small saucepan down to a pint, strain and cool it, and administer it in doses of a dessert-spoonful every ten minutes, until free vomiting takes place, with expulsion of the membrane. It may be repeated, if necessary, but it is only in such cases that other remedies fail that this strong decoction should be employed. Carbonate of ammonia may be added sometimes, in the dose of a grain or half a grain, *after* the emetic influence is produced, and occasionally the mixture may be given by the rectum; it is

as well to sweeten it, when taken by the stomach, with syrup, or bruised liquorice root, which cover both the acrimony and flavour peculiar to it.

"An infusion of the senega may be substituted for the decoction, made in the proportion of two ounces of the root to a pint of boiling water, and given in the same doses."

Dr. Gibb believes that a displacement of one or other of the cornua of the os hyoides is of more frequent occurrence than is generally imagined. Several instances have come under his own notice, and of these we extract one, of considerable interest, in which there was hydrarthrosis of the thyro-hyoid articulation.

"A man, forty-five years of age, consulted me several times about his throat. He would feel a sudden click in the *left* side of his neck, which produced a sensation as if something was sticking in his throat; on examination, this appeared to me to depend upon a displacement of the left horn of the hyoid bone, and was generally reduced by throwing the head backwards towards the *right* side, so as to stretch the muscles of the neck, and then suddenly depressing the lower jaw, and so putting the depressors of the hyoid bone into operation. He died, some years after, of pulmonary consumption. On examining his throat after death, I found a sort of pouch which answered the purpose of a synovial capsule, embracing the horns of the thyro-hyoid articulation. It was filled with a clear fluid, had a comparatively large, rhomboid, sesamoid bone, developed in its outer wall, and permitted an extraordinary amount of motion.

"This condition explained the symptoms present during life, and was the fourth example which had come under my notice in the male sex. On the 6th of December, of the eventful year 1848, whilst residing in Paris, I was present at a meeting of the 'Parisian Medical Society,' when a short paper was read by my lamented friend, the late Dr. Ripley, of Charleston, South Carolina, upon dislocations of this bone, especially illustrated in his own person, and upon the manner of reducing them. He described this process very lucidly, which I have seen him perform upon himself several times, when the dislocation was present; it consisted in throwing the head backwards as far as possible, so as to place the muscles of the neck upon the stretch, then relaxing the lower jaw, when the displacement becomes reduced, after a few attempts, with a click, at the same time gently pressing or rubbing over the displaced part.

"The treatment to be pursued in this peculiar malady is, to reduce the dislocation in the manner that has been described, and to improve the general health, by the administration of suitable tonics, especially those that will give tone to the muscular fibre, because it is owing not unfrequently to simple relaxation from constitutional causes, that displacement occurs. When it has arisen from violence, such as the forcible squeezing of the throat, or by garotting, if the bone is not fractured, and the muscular tissues not lacerated, better prospects of a permanent cure are held out than when it arises from relaxed tissues."

On Diabetes and its Successful Treatment. By JOHN M. CAMPLIN, M.D., F.L.S. Second Edition, Revised and Enlarged. (12mo, London, Churchill, 1860, pp. 88.)

The additional information contained in this small volume is well calculated to confirm the favorable impression which we received from a perusal of the first edition. Under the same regimen and treatment, Dr. Camplin himself has again completely recovered from a severe attack, and reference is made to several cases in which others received great benefit from the adoption of the same rules.

The gluten bread of M. Durand of Toulouse, is shown to be inferior to the bran cake. Speaking upon this point, Dr. Camplin says :

"I have lately had my attention called to the gluten bread of M. Durand of Toulouse, imported for some time past, by Messrs. Bell of Oxford Street, and other chemists, and latterly by Mr. Van Abbott of Basinghall Street, as the wholesale agent. This is greatly to be preferred to ordinary bread, where there is an insuperable difficulty as to the bran cake (as in the case of a lady mentioned at p. 24), but it is not at all capable of superseding it, especially in severe cases. It certainly bears little resemblance to the gluten bread I first tried, and which I had prepared both at home and by some of our best chemists ; but in these preparations the starch was thoroughly washed out ; in the bread of M. Durand it is retained to the extent of 26 per cent., according to a recent and most careful analysis ; the starch thus retained and the mode of preparation, by forcing in carbonic acid, render it very different from the gluten bread formerly in use. I have not yet tried it extensively ; but in a recent case of convalescence, in which the urine was 1·025, with scarcely a trace of sugar, during the use of the bran cake, after partaking of the gluten bread four or five days, it became increased in quantity, the sp. gr. 1·036, and dark-brown with Liq. Potassæ. The bran cake was then resumed, and in three or four days the urine was again as before ; the diet, occupation, and weather had remained the same during the experiment."

"In another case, so far recovered that I recommended a trial of the gluten bread, the gentleman prefers Smith's biscuits ; he says that 'they stay his stomach better.'"

"Notwithstanding these unsuccessful trials, I think that, in some cases of convalescents, the gluten bread may be taken as an occasional change, or when meat forms no part of the meal ; but if at any time it is substituted for the bran cake, its effects must be watched. Moreover, I am of opinion that, independently of its action as a remedial agent, no one used to the bran cake, properly made, would willingly change it for the gluten bread, except occasionally."

"Since writing the above, I have received a letter, dated May 3d, 1860, from a diabetic patient in the country (himself a medical man), in which he mentions his having tried the gluten bread, and found the sp. gr. decidedly higher, and the quantity of urine increased. After ten days, he 'gladly returned to his bran bread.'"

After trying several wines, the verdict is in favour of Burgundy.

"I have been better satisfied with my trials of Burgundy, which has

appeared not only to agree with the stomach, and give that tone to the system so much needed, but not to be followed by any bad results. We may now hope to obtain this wine with less difficulty and expense; but caution will be necessary to procure what is really proper, for as to the poor acid wines commonly taken in France and Belgium, I am of the same opinion as formerly."

Among the items of additional information, we notice some interesting remarks upon the use of iodine in diabetes; and from what is said about the action of iodine and iodide of iron in lessening the thirst, and diminishing the secretion of urine in the diabetes insipidus of the horse, we gather that Dr. Camplin is disposed to agree with Dr. Dick, and think that one or other of these remedies may be of use in lessening the same symptoms in the diabetes mellitus in man; but as yet the idea has not been put to an experimental test.

On the Presence of Saccharine Urine in Intermittent Fevers. By Dr. BURDEL, Physician to the Hospital at Vierzon. (Union Méd., No. 139; and Gaz. Hebdomadaire de Méd. et Chir., Dec. 9th, 1859.)

The evidence contained in this memoir appears to show very conclusively that the urine is often saccharine in intermittent fever. Out of eighty-four cases, this phenomenon was present in no less than eighty—present, too, in not less than from ten to twelve grammes of sugar in one thousand grammes of urine. In less quantity, also, and for a short time, sugar was met with in the urine of thirty cases of fever, intermittent at first, but imperfectly intermittent afterwards. In these latter cases, the sugar never ranged to a higher amount than four grammes in the thousand. In determining the quantity of sugar present, Dr. Burdel found that this was greater in quotidians than in tertians, and in tertians than in quartans. He found, also, that the quantity bore a direct ratio to the intensity of the feverish paroxysm, and that there might be little or none in the apyrexial interval.

In testing for the presence of sugar in these cases, Dr. Burdel used four distinct reagents—caustic potass, the liquor of Felling, subnitrate of bismuth with potass or carbonate of soda, and yeast; and the result, he tells us, was entirely unequivocal with each reagent.

The principal part of Dr. Burdel's paper is occupied with sundry speculations upon the essential cause of intermittent fevers, which are not without interest; but it is well that we should have additional evidence as to the simple fact of sugar in the urine before we allow ourselves to theorise upon it.

A Treatise on Medical Electricity, Theoretical and Practical; and its use in the treatment of Paralysis, Neuralgia, and other Diseases. By J. ALTHAUS, M.D. (8vo, London, Trübner and Co., 1854, pp. 352.)

This work is well calculated to place electricity in its true position as a remedial agent, and we have much pleasure in heartily commending it

to our readers. Dr. Althaus has evidently paid great attention to his subject, and on going carefully over what he has written, we find few points, theoretical as well as practical, in which the best-informed reader may not hope to find himself well repaid for his trouble. We may say, indeed, and say truly, that a want long felt and acknowledged in this department of therapeutics is a want no longer.

That marked beneficial results may be expected from the employment of electricity in certain affections of the nervous system we are fully satisfied, and this, we think, will be the conviction of any one not already convinced, who will make himself acquainted with the evidence which is brought together in this volume. Take, for example, what is said respecting hysterical aphonia.

"The first cure of hysterical aphonia by galvanism was effected as far back as 1800, when a German physician, Dr. Grapengiesser,* of Berlin, thought of trying the effect of the current of a single pair on the throat of a girl who had lost her voice for several years. He first vesicated each side of the larynx by blisters of the size of a shilling, and then applied the zinc pole to one of the excoriated spots, the silver pole to the other. The circuit was then kept up for a quarter of an hour, during which time the larynx heaved convulsively, and a great quantity of serous fluid flowed from the wounds. The sobbing continued after the metals had been removed, much mucus was expectorated, and two hours afterwards the voice was much more audible and clear. After this process had been repeated several times, the voice was perfectly restored. Six months afterwards, however, it was suddenly lost again in consequence of a cold, and it did not again return, although the same process of galvanization was repeated. A similar case, in which the same therapeutical proceeding was adopted, has been recorded in the 'Dublin Quarterly Journal' for February, 1847. In this instance the improvement began on the evening of the day when galvanism was first applied, and continued until the fourth day, when the voice was again lost. The process was then repeated, and the apparatus left on all night, with the effect of permanently restoring the voice.

"Professor Sédillot† has published a case of complete dumbness and aphonia, which had existed for twelve years, in a woman thirty years of age. In this case the movements of the tongue were much impaired, the organ being retracted and directed upwards, and the patient not being able to bring the apex of the tongue in contact with the teeth. Professor Sédillot ordered the application of induction currents; one pole was placed alternately on different parts of the tongue, the other on the mastoid process, the posterior and superior part of the neck, and various points of the face. Some pain was experienced, and a severe headache followed this application. A week afterwards a second *séance* was held, after which the patient began to talk distinctly, though the voice had not yet quite returned. A few more applications effected a complete cure.

* 'Versuche den Galvanismus zur Heilung einiger Krankheiten anzuwenden,' Berlin, 1801.

† 'The Lancet,' May 10, 1856.

"Duchenne* has published two cases of hysterical aphonia, one of six months' the other of more than two years' standing; both cases were cured by the application of induction currents to the larynx. Duchenne also adds that he has been unsuccessful in other cases, but he does not give the proportion of successes and failures.

"I have had ample opportunity of trying the value of galvanism in the treatment of hysterical aphonia, as I have been fortunate enough to see fifteen cases of this comparatively rare disease. For most of them I am obliged to the Physicians of the Samaritan Free Hospital. All the patients were women, and most of them under thirty years of age; two were married, thirteen single. In no case were there signs of such a morbid state, either of inflammation or of ulceration of the mucous membrane of the larynx, as would have accounted for the loss of voice; but the affection consisted merely in loss of power in the nerves and muscles of the larynx. In a case which was sent to me by Dr. Henry G. Wright, the merely paralytic character of the complaint might have possibly been mistaken, as that patient also suffered from venereal disease; a specific eruption over the skin and a large node over the right eyebrow; so that by a superficial examination one might have been led to the diagnosis of aphonia resulting from syphilitic ulceration of the larynx. But the other signs of such an ulceration were not present, and that there really were none became evident by the beneficial influence of a few applications of electricity. I may also mention that this case was the only one in which the cause of the complaint was quite evident, as it arose from over-exertion of the voice. In some of the other cases there was a thickening of the mucous membrane of the larynx, but not so much as would account for the loss of the voice; some patients stated a cold draught to have been the cause of the loss of the voice, others did not know how it was brought on, as, awaking in the morning, they found the voice gone.

"The degree of the affection was different. The normal 'timbre' of the voice was totally lost in all cases, but most of the patients were able to whisper by movements of the lips and tongue. Such whispering was quite distinct in some patients, but hardly intelligible in others, two of which were observed in King's College Hospital, under the care of Dr. Todd, another in the Samaritan Free Hospital, under the care of Dr. Savage. A sore feeling in the throat was complained of by all the patients; four of them also felt pain in the chest, and in the epigastrium. Three were irregular as to the time of entrance of the catamenia; but amenorrhœa was not present in any of them. In two cases aphonia was only one symptom of a deep hysterical disturbance of the whole nervous system, as these patients suffered besides from globus hystericus, violent headache, sleepiness, cramps, and weakness in the limbs; one of them afterwards passed into a cataleptic state.

"To give galvanism a fair trial, in most of these cases either indifferent drugs or no medicine was given. In all of them I applied a mild induced current, by means of moistened conductors, and directed the electrodes partially to the recurrent nerve and partially to the tissue of the crico-thyroid muscle, which, as Longet's experiments have proved,

* 'De l'électrisation localisée.' &c., p. 774.

plays a prominent part in the formation of the voice. This mode of application proved beneficial, as out of fifteen cases eleven were cured in a very short time. Faradization proved unsuccessful in four cases, which were of long standing, and complicated with other symptoms of hysteria. In eleven uncomplicated cases of comparatively short standing—as none of them extended beyond the period of four months—the treatment had the following result. In one of them the voice returned about three hours after the first application of a few minutes' duration. Two cases were cured by three, eight others by four, applications. In six cases the voice, when it came back, was at once quite as strong as it had ever been before; in five patients, on the contrary, an evident increase in the sonority of the voice was discernible from the beginning to the end of the treatment.

"Probably it will be objected that not unfrequently in cases of this kind the voice suddenly comes back without any treatment whatever having been instituted against the complaint,* and that therefore it remains doubtful if electricity has been really of any use in it, but I hardly think it possible to deny the beneficial influence of Faradization in cases of this kind. Even if the matter were considered only theoretically, galvanism would give a very fair chance of recovery to a merely local paralysis not connected with any structural disease. Besides, the cases I have treated had existed without any change whatever for a longer or shorter space of time, and were only cured as soon as placed under the influence of Faradization. I am also inclined to consider the circumstance of the gradual increase of the sonority of the voice, which was observed in five cases during the course of the treatment, as a proof of its efficacy.

"As far as I have been able to ascertain, in one case of the eleven a relapse took place a fortnight after the voice had come back; two further applications then again produced the desired effect. I hardly think that there were any other relapses; because it is very likely that, if such had been the case, the patients would have again sought help for a very troublesome and annoying affection, from which they had been delivered by a short treatment not connected with any inconvenience."

Take, again, the two following cases as illustrative of the beneficial action of electricity in certain painful affections:

Case of Tic Douloureux.—Mrs. —, æt. 28, had been in good health until May, 1857, when, in consequence of having got wet through, she was seized by violent pains in the right side of the face, accompanied at first with fever and general indisposition. The latter symptoms soon subsided, but not the very violent shooting-pain, which came on in paroxysms, at the end of which the patient was completely exhausted. For the first few weeks the paroxysms came on very irregularly, about four or five in the course of the day; but after some time, an intermittent character was remarked, as only one paroxysm came on every other day between four and five o'clock in the afternoon. Large doses of quinine and arsenic had been given, but without producing the antici-

* An interesting case of this kind is related by Dr. Todd, in his 'Clinical Lectures on Paralysis,' &c., p. 265.

pated effect; the patient had also been treated by calomel, sublimate, iodide of potassium, and blisters. Her general health has much suffered; she has become nervous and irritable. When I first saw her, the present state was as follows:—There are always premonitory symptoms which announce the approaching paroxysm, viz. a sort of tickling in the epigastrium, followed by formication in the face. Then very violent pains begin, which are chiefly felt on the zygomatic bone, beneath the lower eyelid, in the cheek and chin, a little less on the nape of the neck, but not in the forehead and the temple. This paroxysm usually lasts about half an hour, and then slowly subsides into a dull pain, which continues for three or four hours. The following day she is free from pain, the third day is again marked by a paroxysm. On examination of the face, I found two of Valleix's painful points, viz. one on the zygomatic bone, where the temporomalar, and another on the infraorbital foramen, where the infraorbital nerve emerges from the orbit; pressure on these two points excited a distinct painful sensation in the free interval. I therefore thought it well to place the poles alternately on these two points, by means of moistened conductors, conveying a rapidly interrupted induced current to the suffering nerves. The first application (October 10th, 1857), made at the time when the paroxysm had just commenced, alleviated, according to the patient, the severity of the pain, but did not shorten the duration of the paroxysm. On the 12th of October, another paroxysm came on at due time, and was then positively shortened by the application of induction currents. On the 14th, premonitory symptoms, as usual, but no paroxysm. On the 16th a paroxysm came on, which was subdued in five minutes. Five other faradic *séances* were held, the last paroxysm having been on the 26th of October. I saw the patient in the beginning of June, 1858, when she told me that up to that time she had not been troubled again by the pain.

Case of Sciatica.—J. F. T—, Esq., æt. 35, from Edinburgh, has never been in strong health, and has suffered for a long time from acidity in the stomach. Eight years ago he had his left thigh amputated for tumour albus; he carries now an artificial leg, which, being very heavy, exerts a great strain upon the left side of the pelvis. Three years ago he first began to feel pain on the back of the right thigh, and on the inside of the leg, down to the ankle. The pain having been dull and heavy for some time, soon became keen and acute, so that the patient was laid up by it. He thought that it was brought on by his having taken too much exercise. He did not suffer from violent paroxysms of pain, followed by free intervals, but was permanently troubled. He placed himself under the care of two of the most eminent practitioners of Edinburgh, and after some time was much relieved, the acuteness of the pain slowly but gradually subsiding. He then left Edinburgh; but being still troubled, he had acupuncture practised upon him, needles being thrust into the sciatic nerve. From this proceeding he received immediate relief, but the pain never entirely left him, and was much about the same shortly after the operation. About two years afterwards he came up to town and consulted Sir James Clark, who kindly sent him to me. The pain was dull at that time. When the patient walks, even for a short distance, the pain is

much increased, and is also very bad in the first part of the night. Strong pressure has no marked influence upon the pain, but it rather relieves than aggravates it. Besides, the patient states that early in the morning there are usually lively cramps perceptible in the muscles of the leg, which, however, generally subside in the course of the day; as they are not accompanied with any unpleasant sensations, he rather regards them as a curiosity than as an object to be complained of. I first resolved trying Duchenne's proceeding of Faradization of the skin, and made use of a powerful current, which I applied by metallic wires to the painful points. Two such applications, however, produced no effect. In the third *séance* I therefore sent a very rapidly interrupted induced current of medium intensity through the sciatic nerve, placing the positive electrode near the tuberosity of the ischium, the negative one near the ankle. Moistened conductors were kept in close contact with the skin, on the points mentioned, for six minutes; and when I interrupted the application, the pain was quite gone, and the patient left me free from any unpleasant sensation. When he called again on the following day, he told me that the pain had returned about three hours after the *séance*, but that it was by no means so severe as it had been before, and that he had enjoyed a very quiet sleep that night. I repeated this operation three times again, after which he was obliged to leave town. After the second *séance* the patient had been free from pain up to the following morning, and after the fourth he only felt it very trifling when walking, but not while in a quiescent position. Six weeks afterwards I received a note from the patient, stating that since this treatment his limb had been a good deal better; he was, however, not totally free from pain when he walked to any distance, yet the pain went off sooner, was less severe, and not so liable to return as formerly. I therefore advised him to come up to town once more, to undergo another course of faradic *séances*. This the patient did some time afterwards. I operated upon him six times more as above, and with such a beneficial effect that the patient was no longer troubled, even when walking the considerable distance of three or four miles. I ought not to forget to mention that the cramps which used to come on early in the morning in the muscles of the leg were not done away with by the electric movement; but as the patient never found them in any way unpleasant, he did not care for it.

On Obscure Diseases of the Brain, and Disorders of the Mind; their Incipient Symptoms, Pathology, Diagnosis, Treatment, and Prophylaxis. By FORBES WINSLOW, M.D., D.C.L., &c. (8vo, London, Churchill, 1860, pp. 721.)

It is seldom that the publication of a new medical work has been awaited with more impatience than has that of the volume now before us. The subject is one of the utmost importance, and one as yet but imperfectly studied; and the author is a psychological physician of acknowledged talent and experience. It would have been, therefore, strange indeed if those who feel the great responsibility which attaches to the treatment of obscure cerebral diseases did not look forward to the advent

of this book with more than ordinary interest. It will, we think, be conceded that if there be one class of ailments more difficult than another to recognise in its earlier stages, and therefore more frequently overlooked and misjudged, it is that of diseases affecting the cerebro-spinal system. Every observer, it is true, can recognise these ailments in their well-pronounced forms; he can at once appreciate the case of a patient struck senseless by apoplexy, or whose limbs hang helpless by his side. He can also thoroughly interpret the mental stage of a patient who, as in a case now under our charge, believes himself to be John the Baptist, and that his wife is pregnant by the Holy Ghost. But physicians, well informed on other subjects, are often as blind to the silent *commencement* of disease of the brain and mind as the commonest unprofessional observer. It is on this subject—the incubation, so to speak, of the disease—that the present work is eloquent; and henceforth excuses for professional ignorance will scarcely be accepted.

In the introductory chapter, our attention is specially called to this point. The author quotes numerous instances in which sudden death arrives in the midst of apparent health, neither friends nor medical attendant having noticed previously anything to excite uneasiness. But in these cases the physician well versed in cerebral pathology will extract from the history facts which ought not to have escaped attention, and the recognition of which in time might have averted the fatal event.

"These affections of the brain," observes the author, "have undoubtedly a premonitory and precursory stage. In the majority of cases, the mischief established within the cranium, disorganizing the delicate tissues of the brain, may, on careful examination, be detected. There are pathognomonic and diagnostic precursory signs, which serve to guide the observant and intelligent eye of the practical physician, and enable him, with some degree of certainty, to discover the first scintillations of brain disease, even when the patient and those around him repudiate all idea of cerebral ill health, and refuse to acknowledge the necessity for medical advice and treatment."

These symptoms, however, are not so broadly written that "he that runs may read." A slight knitting of the brows—a trifling irritability of temper in a generally placid individual—an ill-defined sense of general or local muscular weakness—confusion of memory—depression of spirits not plausibly accounted for—a disinclination for mental work—a slight hesitation of speech—the occasional use of a wrong word, or inability to find at once the right expression, are, as Dr. Winslow observes in italics, "*all characteristic symptoms frequently diagnostic of disease having commenced in the brain.*"

Let us ponder well on these words. How many of us have not blamed as "temper" alone the querulousness and inconsistency of commencing cerebral softening! How many have not set down as desperate lies, or as the silly vapourings of vanity, what have been in reality the baseless delusions of commencing general paralysis! Such and similar oversights are frequent, not only among the public, but among those also whose avocation ought to have ensured a more enlightened opinion. To arrive at a just conclusion is not, it must be owned, always an easy

matter; neither is it in all cases possible to draw a line between eccentricity and insanity. The natural character of the individual must have its due weight in the decision. If an Irishman, for instance, were to exhibit his elation of spirits by standing on his head, or kicking in the crown of his hat, the extravagancy might fairly be set down to Hibernian volatility; but the same acts in a Quaker would bear a very different interpretation. Be it as it may, the careful reader of Dr. Winslow's earnest remarks will not in future lightly disregard the fleeting signs which, to the educated eye, point to the earliest assaults of disease upon the throne of reason, or the citadel of life itself.

In proceeding further into the consideration of the incipient signs of encephalic and mental disease, the author distributes them under the following heads:

- 1st. Morbid phenomena of the intelligence.
- 2d. Morbid states of motion.
- 3d. Morbid conditions of sensation.
- 4th. Morbid conditions of the special senses.
- 5th. Morbid phenomena of sleep and dreaming.
- 6th. Morbid phenomena of organic life.

Under the first section come those anomalous and marked affections of the mind which are manifested in varied conditions of exaltation, depression, aberration, and annihilation or impairment of mind. These phenomena are closely scrutinised, and their value is much enhanced by the narration of numerous cases and confessions of lunatics when restored to reason. Some of these cases are most instructive, and will well repay attentive perusal. The question of insanity among children is also discussed, and illustrated by several striking examples.

Dr. Winslow very properly draws some distinction between what he terms a *disordered* mind and one which is *legally* termed insane. Of unrecognised or latent insanity he remarks—

“The subject of unrecognised morbid mind is yet in its infancy. It may be said to occupy at present untrodden and almost untouched ground. What a vast field is here presented to the truth-seeking observer, who to a practical knowledge of human nature adds an acquaintance with the higher departments of mental and moral philosophy, as well as of cerebral pathology. How much bitterness and misery so often in the bosom of families arises from concealed or undetected mental aberrations! How often do we witness ruin, beggary, disgrace, and death, result from such unrecognised mental conditions! It is the canker worm gnawing at the vitals and undermining the happiness of many a domestic hearth. Can nothing be done to arrest the fearful progress of this moral avalanche, or to check the course of the rapid current which is hurling so many to ruin and destruction?”

This so frequently unrecognised but very prevalent form of mental disorder is, according to the author, generally found to implicate the *affections, propensities, and moral sense*, and its manifestations are too often set down to the natural wickedness of the human heart, when, in fact, they are the initiatory signs of what sooner or later develops itself into unmistakeable alienation of mind. There is little or no

derangement of the general health in these cases, but, on the contrary, the patient goes into society as usual, transacts his business with his ordinary acumen, and to casual observers nothing is perceptible. Yet, says the author, this person may be a confirmed monomaniac all the time, and, under the domination of what may be a carefully concealed morbid idea, may ruin his family by extravagance, become brutally sensual, a drunkard, and even suicidal, while in the eyes of the public and even of his relatives he may pass for a rational being. A marked example of this form of disease we extract:

"A lady, after a dangerous accouchement, exhibited, without any adequate exciting cause, an inveterate hatred to one of her children. She treated this child with great systematic brutality. To such an extent did she carry this unnatural feeling, that the husband was obliged to remove the child from the house and place it under the care of a relative. I had no doubt at the time that this person's mind was disordered. Such was my written opinion. The opinion, however, was repudiated by nearly all the members of the family, who obstinately closed their eyes to her sad and melancholy condition. Three weeks had scarcely elapsed since my first consultation, when I was informed that this lady had made an unsuccessful attempt at suicide. It was then obvious that she was not in a sane state of mind, and her family no longer hesitated to place her privately under close restraint."

Many other forms of unrecognised mental aberration are also noticed by the author, comprising instances of morbid religious delusion, erotic obscenity of flagrant character in well-educated and formerly pure-minded females, motiveless acts of indecency and brutality, all of which afford evidence of the most essential importance on a point of which society is so loth to admit the reality.

It is with regret that we find ourselves at this period of our labours compelled to pass over several of the subsequent chapters of this valuable treatise, all of which, we may premise, are of equal value with the foregoing portion of the work, but the limits of this notice forbid our doing more than to direct attention to the chapter (xxv) on the General Principles of Cerebral Pathology, and the Diagnosis and Treatment.

The pathology of insanity is a *terra incognita*, and the author judiciously avoids an attempt to embody in a few pages anything like an accurate description of the numerous changes, organic and functional, which give rise to the variety of disorders of the mind and brain with which we are familiar. The fact, on the one hand, that symptoms during life of the most violent mental and bodily derangement may be found with a brain which, under the anatomist's knife shows no departure from health; while, on the other hand, the most extensive cerebral disorganization may be revealed which gave rise to no symptoms to excite suspicion during life; these antagonistic facts, to the author as to others, offer an enigma which is not readily to be unravelled. We shall not follow Dr. Winslow through his accurate *résumé* of opinions ancient and modern on the nature of insanity, but at once endeavour to ascertain what is the basis of his own opinions on the subject. The question is thus well put by him:

"The question more immediately in review is whether there are

any specific and clearly definable characteristic organic alterations in the tissue of the encephalic mass, its membranes, osseous investment, blood-vessels, &c., invariably present in insanity, that can be considered to stand in relation of cause and effect. If the substance of the brain be universally implicated in all cases of aberration of mind, is there any uniformity in the organic changes? If insanity be, as many suppose, an inflammatory affection, what is the precise seat and nature of the plegmasia?"

To this he replies, that general experience shows that in numerous cases mental derangement is obviously accompanied by active capillary injection of the membranes and subjacent cortical substance of the hemispheres, but on the other hand equally violent symptoms "leave no sign" after death. Such cases, he supposes, may depend upon a "disordered condition or altered action of the *psychical co-ordinating principle* evolved in the cerebrum, which (when the brain is free from material change and the mind not disordered) preserves intact the unity of action and normal balance of the intellectual power," it may be, in other words, to use his own phrase, a "pyschical hyperæsthesia." When the brain does exhibit changes coincident with mental derangement, these are effusions into the arachnoid sac, false membranes, suppurative meningitis, congestion, with alteration of consistence of the brain-substance, structural alterations in the blood-vessels, &c., &c. These, however, are not all, and, as the author observes, the catalogue would be incomplete without a notice of morbid phenomena appertaining to other organs, as the heart, liver, and kidneys.

The diagnosis of insanity is next considered; and, as the subject is of the utmost importance in reference to medico-legal investigations, we the more emphatically call the attention of our readers to it. The author inquires what are the general principles upon which we venture to form a diagnosis of insanity, and whether, after all, mental pathology is so exact a science as to make our deductions trustworthy. Can we, he asks, discriminate clearly what is insanity and what vice or eccentricity?—or when can we feel assured as to the extent to which brutality, prodigality, obscenity, and jealousy is compatible with intellectual sanity?—in simpler words, where is the line between aberration of mind and the natural instincts of a fallen nature? These questions, so put, only too clearly show the doubt which exists in his own mind; and he is to be admired for his candour, when he admits that "cases occur which puzzle and confound the most sagacious and experienced psychologists."

In entering more particularly into the differential diagnosis of insanity, the author proposes three conditions of the cerebro-spinal system, with which it may be confounded. 1. That state either of depression or exaltation of the nervine functions which, for want of a more definite term, we call "nervousness." 2. Delirium tremens. 3. Attacks of purely inflammatory or congestive states of the brain and its envelopes. For his brief, but, in our opinion, not quite satisfactory mode of distinguishing these affections, we must refer to the text; as also for his reproduction of the valuable observations of Dr. Skae, on the origin and progress of general paralysis.

Some interesting remarks next occur on a symptom which is always a sufficiently puzzling one, especially in females, viz., the diagnostic value of headache as a symptom of cerebral disease; but we do not find that the author is able to help us out of the dilemma in which this symptom so often places us.

We now come to the part of this very valuable book in which we look with interest for the results of the lengthened experience of its talented author—the treatment, curative and prophylactic, of insanity and encephalic disease. In dilating upon the treatment of incipient insanity, Dr. Winslow lays great stress on the early detection of mental aberration, or rather of the stage at which the mind is about to succumb to morbid influences. This is a task requiring great knowledge and “tact;” but, with these helps, the difficulties are not insurmountable. Dr. Winslow, especially, in this examination, calls attention to the state of other organs than the brain, some derangement of which will generally be discovered, and will prove to have exercised much influence on the mental condition.

In considering the treatment of these affections, we particularly urge our readers' attention to what should be considered an axiom in cerebral pathology, and on which Dr. Winslow strongly insists, “that the brain in cases of mania, even of the most exalted kind, is not necessarily in a state of active congestion or inflammation.” Well would it be for the unhappy victims of acute mania if this dictum were engraven on the mind. How many cases have been hurried into eternity, and how many more condemned to confirmed insanity, by the dogma of *inflammation*, which is still the “bête noire” of many who persist in seeing in excitement, only the calls for the lancet, and low diet! There are, however, some doubtful cases, in which, though depletion is inadvisable, the calming of the circulation may be necessary. In such cases Dr. Winslow depends on tartar-emetic in small and increasing doses. The hot bath and cold douche to the head simultaneously is also recommended by him, and, as our own experience teaches us, with much propriety.

In other cases of incipient insanity unconnected with active vascular excitement, opium is regarded by Dr. Winslow as the sheet anchor.

“I am satisfied,” he observes, “that a vast amount of mental derangement may be successfully treated in its early stage by the continuous and persevering administration of sedatives. When insanity is clearly associated with a depressed condition of the vital powers, evidenced by a weak pulse, feeble action of the heart, and general anæmic state of the system, the exhibition of the hydrochlorate, acetate, or muriate of morphia, *combined* with iron and quinine, will in a great majority of cases, be found to act like a charm in arresting the progress of the mental malady.”

On the point of removal of an insane patient from home, Dr. Winslow agrees with every one who is familiar with mental disease; that for early cure early separation from the family is necessary. “No physician,” he says, “would be justified in undertaking the treatment of a case of acute insanity without receiving from the friends of the invalid absolute and unconditional permission to isolate the patient completely from home, and every circumstance with which he had been previously connected.”

In incipient organic disease of the brain, the author advises occasional small local depletions, with attention to the functions of the organs of elimination. If the heart is coexistently diseased, he has found much benefit from treating this organ on the general principles of the management of cardiac disorders.

In commencing general paralysis, what are called nervine tonics are highly recommended, as zinc, arsenic, and strychnine. In commencing softening of the brain, he advises the same reparative treatment, combined with nutritious diet and stimulants. At the same time he combines some counter-irritation externally.

Some remarks follow on impairment of memory, in which the author shows the evil effects of the early forcing so much followed in the systems of education of the present day. He then addresses himself to two inquiries: 1st. At what period of life does the intellect begin to decline? 2d. Is great strength of memory often associated with limited reasoning powers?

In illustration of the first question, he adduces several instances in which a high order of intellect remained to the extreme verge of human life. Of these we may mention the celebrated composer Cherubini, Titian the painter, Richard Cumberland Bishop of Peterborough, Lord Eldon, and Lord Mansfield; to these may be added, as living examples, Lord Brougham and Lord Ellenborough.

The second question he answers in the affirmative, although he admits many exceptions.

We have thus endeavoured imperfectly to lay before our readers a short abstract of the contents of what we honestly believe to be the best book of the season. No maladies which the physician is called upon to minister to, can surpass in importance, those obscure diseases, mental and cerebral, which exercise so direful an influence on the happiness and welfare of the human family, and it is not too much to say that in Dr. Winslow's admirable volume, we have an aid in this matter for which the profession is under very considerable obligation.

II.

REPORT ON THE PROGRESS OF SURGERY.

On the Arrestment of Surgical Hæmorrhage by Acupressure. By Dr. J. Y. SIMPSON, Professor of Medicine and Midwifery in the University of Edinburgh. ('Dublin Hospital Gazette,' January 2d, 1860, and 'Medical Times and Gazette,' February 11th, 1860.)

In answer to a request by Dr. Cathcart Lees, wishing for information upon this subject, Dr. Simpson states his case in the form of general axioms, or—

Propositions.

I. Wounds will, as a general rule, heal entirely by primary adhesion, even under the most difficult circumstances, provided no arterial ligatures are used, as is every day proved, in obstetric surgery, by the successful reunion of the vivified lips of vesico-vaginal fistulæ tied together by metallic sutures, and that too in despite of the constant contact of urine with one side of these wounds.

II. The wounds in common surgery, as after the removal of a limb, mamma, tumour, &c., in vary rare cases only, unite completely and entirely by the first intention, or by primary adhesion. For example, M. Velpeau has seen the wound left after excision of the mamma close by primary adhesion in only about one in every thirty of the patients whom he has operated upon; and in all his exceptional cases where complete primary union took place, *no arterial ligatures* happened to be used.

III. Arterial *ligatures* act themselves as foreign bodies in the depths of the wound, and usually soon become irritating agents also, in consequence of the animal fluids which they there imbibe and swell with, decomposing in them.

IV. Arterial ligatures prevent reunion in another way,—they cut through each arterial tube which they surround, by a process of ulceration, suppuration, and gangrene; and every wound contains therefore as many centres and points of ulceration, suppuration, and mortification as there are ligatures used.

V. Metallic needles or pins when employed to compress and close the arteries opened in wounds and operations are comparatively free from these objections, and do not offer the same obstacles to the closure of wounds by primary adhesion. For,

VI. In accordance with the general pathological fact or law of the

tolerance of living animal structures for metallic bodies imbedded in them, metallic needles produce little or no irritation by their presence, as seen (1) in the harmless retention for months or years of bullets, small-shot, pins, &c., in the body; (2) in the relative innocuousness of long needles introduced and lodged for the purpose of acupuncture; (3) in the non-irritating character of iron, silver, and other metallic threads when used as surgical sutures; and (4) in the employment, by all our best surgeons, of metallic pins or needles in the union of harelip, where the whole aim and object of the operation is to secure and establish primary adhesion of the lips of the wound.

VII. The needles best adapted for arresting hæmorrhage by the system of acupressure are headed, shaped, and sharply pointed like harelip-needles, but longer when the sides or flaps of the wound which they traverse are thick; and the best material for them, as for surgical suture-threads, is steel or iron rendered non-oxidizable or *passive* according to the plan and language of Schönlein.

VIII. In closing, on the interior of a wound, a bleeding artery by acupressure, the needle requires to be passed *twice* through the sides or flap of the wound; namely, *first* from and through the skin of the flap inwards to the raw surface of the wound, and after bridging over and compressing the site of the bleeding artery (on the cardiac side of its bleeding point), then *secondly* it is pushed and passed from the raw surface of the wound back again to the skin; leaving thus exposed on the raw surface of the wound a short arc or bridge of steel lying across and compressing the tube of the bleeding artery, whilst the two extremities of the needle, that is its head and point, are both left exposed on the cutaneous surface of the flap.

IX. The relative angles at which the needle is introduced into, and passes out again through the flap, regulate the degree of pressure exerted by the middle portion of the needle over the site of the artery.

X. The same process applies equally to the thickest and thinnest flaps; a very thick flap, however, as in amputation of the thigh, requiring a corresponding long needle; and sometimes two or more bleeding orifices or arteries being securable by the compression of one needle, but more generally, as is the case with ligatures, a separate needle being required for every separate bleeding artery.

XI. In some circumstances and situations an artery is more readily obstructed by being compressed by the needle against a neighbouring bone or other deep resistant point than when pinned, as described above, against the sides or flaps of the wound; and for this purpose the needle must be passed through the flap from without to near the site of the artery, and then afterwards over the site of the artery, and subsequently outwards again to the skin at such varying directions or angles as will ensure the adequate compression of the arterial tube between the side of the needle and the selected resistant point.

XII. In many cases the mere bridging over and compression of the site of the artery by a needle passed not at all deeply into the cellular, muscular, or other soft tissues on either side of the artery, appear to be quite sufficient to arrest all flow of blood.

XIII. The heads of the acupresses, or acupressure needles, being

always left out on the cutaneous surface of the wound, the needles themselves can thus be in every case entirely withdrawn in one or two days, or as soon as complete closure of the artery has been established, leaving no foreign body in the walls or flaps of the wound.

XIV. The acupressure of arteries instead of the ligature of ~~them~~ appears, as a means of arresting hæmorrhage, to present the following—

Advantages.

First. Acupressure will be found to be more easy, simple, and expeditious than the application of the ligature.

Second. The metallic needles in acupressure can scarcely be looked upon as irritating foreign bodies in the wound, and may always be entirely withdrawn in two or three days, or as soon as the artery is completely closed; whilst the organic ligatures are irritating foreign bodies, and can never be withdrawn or removed till they have ulcerated through the tied vessels.

Third. The ligature inevitably produces ulceration, suppuration, and gangrene at each arterial point at which it is applied; whilst the closure of arterial tubes by acupressure is not attended by any such severe and morbid consequences.

Fourth. The chances, therefore, of the union of wounds by primary adhesion should be greater under the arrestments of surgical hæmorrhage by acupressure than by the ligature.

Fifth. Phlebitis, pyæmia and its consequences, or in other words, surgical or traumatic fever, seems not unfrequently to be excited by the unhealthy suppurations and local sloughings which are set up in wounds by the irritation and effects of the ligatures.

Sixth. Such dangerous and fatal complications are less likely to be excited by the system of acupressure, seeing the presence and pressure of metallic needles has no such tendency to produce local suppurations and sloughs, such as occur at the seats of arterial ligatures; and,

Seventh. Hence, under the use of acupressure we are entitled to except both—1st, that surgical wounds will heal more kindly and close more speedily; and, 2dly, that surgical operations and wounds will be less frequently attended than at present by the dire effects and perils of surgical fever.

“In reading over the preceding propositions,” adds Dr. Simpson, “I fear that I have scarcely made the *mode* of passing the needles quite intelligible. It is very difficult to describe it in words, though it is easily understood when once seen and practised with a long needle upon a piece of cloth, or upon the flaps of a wound or amputation made on the dead subject. You have often fastened and fixed the stalk of a flower in the lapelle of your coat, by passing a pin across or over its stalk in the very same manner as I propose the tube of an artery to be fastened and compressed by an acupressure pin sent through the flaps or sides of a wound. In the last case of excision of a large cancerous mamma, I had to close six separate arteries by the acupressure needles.

“I have not, I fear, stated explicitly enough that the needle

usually compresses merely the *site* of the bleeding artery without necessarily touching the walls of the artery itself. Of course many special details in relation to acupressure can only be worked out by practice and experience. When once we have gained a correct *general principle*, we may feel assured that time and practice will subsequently elicit the details and perfect its applications. John Bell, in his lectures on surgical hæmorrhage and the history of the arterial ligature, the invention and first use of which he insists most incorrectly in ascribing to Ambrose Parè, speaks of Parè's discovery as 'the discovery of the *needle and ligature* for stopping arteries.' Modern surgery has retained only his ligature, and use now for passing it the forceps or tenaculum instead of the needle. I think that we have thrown away the wrong half of Parè's apparatus, and that we ought to use the needle alone, and reject the ligature entirely. Let me merely add, in conclusion, that I have made a long search in the ancient as well as the modern literature of surgery, for any hint or notice of acupressure as a means of arresting surgical hæmorrhage, but I have failed in finding anywhere any trace of it."

Before publishing on the matter Dr. Simpson had experimented on the lower animals, and in particular he had effectually and easily prevented hæmorrhage from the divided carotid of a horse. He had also made various experiments on the dead human subject, in which the flow of blood was imitated by the injection of tepid water along the arteries. Thus prepared, he used acupressure with perfect success in three cases of excision of the cancerous mamma—in the last of these cases having to close six separate arteries with an equal number of acupressure needles.

The application of acupressure to the arrestment of hæmorrhage after amputation of the limbs will be seen in the following cases, the first being by Dr. Greig, of Dundee.

CASE 1.—On January 10th, 1860, Dr. Greig performed amputation at the forearm in the afternoon in a case of laceration of the hand from the bursting of a gun, and used the needles instead of ligatures for arresting hæmorrhage. Both the radial and ulnar arteries bled freely, but were easily controlled by a needle placed on each, almost half an inch above the cut end. Both needles were, of course, in the palmar or anterior flap, and "were applied *quite as easily as a ligature*." These last words are underscored in Dr. Greig's letter, and show that thus the very first trial of acupressure proved as easy as deligation in the hands of a surgeon who for years had been in the constant practice and habit of applying ligatures to arteries for the staunching of hæmorrhage in his operations.

CASE 2.—Three days afterwards, January 13th, Dr. Greig again wrote as follows:—"I have had another amputation at the middle of the forearm to-day, and used acupressure with ease and success. The process, so far as I have tried it, is *the simplest* one can imagine; and, unless I see some good reason for changing my mind, it must ultimately come into universal adoption. It is really surprising how very little pressure is required to stop bleeding from an artery. In fact, I had no idea of it till I tried acupressure."

On January 20th, Dr. Greig writes:—"Both the cases of amputation in which I used acupressure have done remarkably well. There has been less *irritation* and less suppuration, and the wounds are healing more kindly than

had ligatures been employed. The first case did not close by the first intention, owing to part of the anterior flap having been lacerated by the explosion. The second has gone on as well as could be wished—no fever, no irritation—and the wound is healing by the first intention. What surprises me more than anything else is, the very small amount of pressure which is required to stop arterial hæmorrhage. In passing the needle over an artery I do not think it will be found necessary to turn it sharply over the vessel, thereby binding it very tightly to the flap. Such a degree of pressure is by no means required. Less irritation is caused by passing the needle more lightly across the artery, and taking in more tissue along with it."

"It is a comfort also," Dr. Greig adds, "to both patient and surgeon, that by acupressure the artery is closed in about forty-eight hours (a large artery may, of course, require a longer time), and all cause of irritation at once removed. In my first case I allowed the needles to remain in for three days; but in future I will consider two days long enough; and, for all I know, perhaps it is longer than is required."

"I have now the greatest faith in acupressure. I intend employing it in all kinds of cases that may come under my care, and I will have no fear whatever to use it in my first thigh amputation."

"In giving directions for securing the vessel, you advise the surgeon to place the forefinger over its bleeding mouth, &c. Now you will find it much better when you have a flap to keep the finger of the left hand on the skin side and use the thumb. You feel the vessel beating between the thumb and forefinger, and you can introduce the needle in the dark."

I heard again from Dr. Greig on January 23d. "The amputations (he states) are doing well, and both patients are walking about the wards. Yesterday (he continues), at a case of removal of the mamma, I again used the needles, and easily arrested the hæmorrhage from two arterial branches which were spouting freely in the upper or axillary flap. A small branch of an intercostal was the only other bleeding vessel, and torsion was used for it. Nothing could have been easier or more beautiful than acupressure applied in this case, as the procedure was seen in its simplest form—more so than in a flap." "I see," Dr. Greig adds, "that in France M. Foucher has tried acupressure on the dead subject, and also on a dog. I wonder why he did not try it in an amputation. Nothing can be easier, and if a surgeon uses it once I am sure he will do so again."

CASE 3.—On January 30th I had an opportunity, kindly afforded me by Mr. Edwards, Lecturer on Surgery here, of applying acupressure to stop the bleeding following an amputation of the foot through the first row of tarsal bones. The patient had been unable to work for one or two years, in consequence of an injury to the foot, which led to necrosis, and intractable caries of the anterior row of tarsal bones. He was a strumous subject, and his health was much damaged and broken down by the effects of the disease. Mr. Edwards performed the operation with great dexterity and rapidity, and the four or five vessels that bled were easily secured by as many acupressure needles. The section of the astragalus showed the existence of some disease in its cancellated tissue, which necessitated the removal with the gouge of a portion of its structure. The whole surface of the bone laid bare by the saw and gouge was vascular, and continued to ooze out blood as long as it was exposed. But as the patient was so weak and reduced, Mr. Edwards was anxious to close and stitch up the wound as soon as possible, and before the chloroform-sleep was over. The needles were all removed from the stump about fifty hours after the amputation. During the two subsequent days, there twice occurred a slight oozing of blood from the outer angle of the

wound, but not more than enough to redden the moist dressings; and this altogether ceased on the removal of an old ash-coloured clot from the situation above mentioned. To-day, eight days from the date of the operation, the stump is healing kindly, and the patient feels well.

CASE 4.—In the preceding three cases of amputation, acupressure was effected by passing the needles from the cutaneous surface of the flap, over the track of the bleeding vessel, and then causing their points to emerge through the skin at some distance. In other words, in all of these cases the cutaneous portion of the flap was used as the point of resistance against which the wounded artery was compressed by the bridge of the needle passing over it. In an instance of amputation of the leg immediately below the knee, performed on January 31st, in the Hospital at Carlisle, by my esteemed friend Mr. Page, I had an opportunity of applying acupressure in another of the modes suggested in my paper on the subject, viz., by compressing the principal bleeding arteries against a neighbouring bone as the resistant point. The cause leading to the amputation was very extensive and old-standing irremediable disease of the tibia. It is, I believe, generally acknowledged amongst surgeons, that in consequence of the deep situation of the two tibial arteries, between the tibia and fibula, and in proximity to the inter-osseous ligament, seizure and deligation of these vessels in amputation immediately below the knee are, as a general rule, more difficult to accomplish than the ligature of the arteries cut across in any of the other amputations of the limbs. After Mr. Page had removed the diseased limb in the case in question, I stayed the hæmorrhage from the two tibial arteries by compressing and closing them with two needles introduced through the cutaneous surface of the anterior flap, about half an inch above the level of the ends of the amputated bones. The points of these needles after producing the requisite degree of compression of the vessels against the bone, were pushed onwards into the substance of the stump behind. They were not, in this way, visible at any point on the raw surface of the stump. The first needle that I passed failed in producing an adequate degree of compression; but the two next succeeded. Half-way down on the inner surface of the large and fleshy posterior flap, an artery gave rise to some difficulty, for a reason which I had not previously prepared for. I passed a needle through the flap, a few lines on the upper or cardiac side of its bleeding orifice, so as to produce a sufficient degree of compression across the supposed track of the vessel leading to it, but without the effect of arresting the hæmorrhage. On sponging the bleeding point, and examining it more carefully, we found that the jet from the artery was coming from below upwards, and not from above downwards. In consequence of this discovery I removed the acupressure needle, passed it through the flap nearer its apex, so as to produce compression two or three lines *below* instead of above the bleeding point—on the peripheral instead of the cardiac side of that point—and the hæmorrhage was forthwith arrested. Mr. Page closed the wound most carefully with a large number of metallic sutures. He withdrew the acupressure needles seventy-one hours after their introduction. In a letter which I received from him four days after the operation Mr. Page says:—"The man continues to eat and sleep well. Indeed," he adds, "I never had a patient who suffered less after amputation of the leg; and the condition both of the patient and the stump are altogether most satisfactory."

In addition to the four preceding larger amputations, I have heard of some smaller amputations about the fingers and hands performed during the last month, in which acupressure was successfully used for arresting the subsequent hæmorrhage. I saw a case of amputation of one of the fingers in

which my pupil, Mr. Pierce Simpson, operated. The arterial bleeding, as well as some general oozing from the surface of the flap, ceased immediately upon the introduction of an acupressure needle. The finger was irritated, and its vessels full and injected in consequence of the effects of a severe injury received two weeks previously.

On Cancer-cures and Cancer-curers. By T. SPENCER WELLS, F.R.C.S., Surgeon to the Samaritan Hospital, &c. (Pamphlet, London, Churchill, 1860, pp. 93.)

This pamphlet is one which is calculated to do much good, not only in exposing the impostures of the pretended cancer-curers, but also in disseminating right notions as to the correct treatment of cancer. The body of the pamphlet is made up of a lecture delivered in 1857, and noticed at the time ('Abstract,' XXVI, p. 124). The additional information, with which we have now to concern ourselves, is about Dr. Fell, "le Docteur Noir," and the Rev. Hugh Read, Curate of St. Sepulchre's, in this city.

We have already said something to the discredit of Dr. Fell, when noticing his treatise on cancer and its treatment; and we were quite prepared for the disclosures made by Mr. Wells. What more is needed to show the baselessness of this man's pretensions, as a painless and effectual cancer-curer, than the melancholy case of Mrs. Gosse, as related by her husband, Philip Henry Gosse, F.R.S., and published by Messrs. Nesbit, in 1857? But, if more is needed, other cases of the kind are provided by our author. About the end of April, 1856, Mrs. Gosse became conscious of a hard lump in her left breast, which was pronounced to be cancer, and for which excision was recommended. The narrative then proceeds:—

"But my relative had heard of an American, who professed to cure cancer by a new process, without the need of an operation; and as he was said to invite the notice of the faculty, Dr. S— kindly offered to attend on one of his public days, and let us know the result. He accordingly went, and, from his report, we determined to consult the American physician, residing at Pimlico.

"On our visit, he professed to be in possession of a secret medicament, by the external application of which to a cancer the diseased portion gradually became dead, spontaneously separated from the healthy flesh, and sloughed away, leaving a cavity, which soon healed, and the patient was well. He showed us photographs of many patients in different stages of cure, many large tumours preserved in spirit, which had been sloughed away under his treatment, and, what was still more to the point, we saw one of his patients dressed. This was a middle-aged woman, suffering under cancer of one breast, who told us she had been three weeks under Dr. F—. We saw the large tumour, dark, hard, and apparently dead, deeply scored across, and divided by a distinct line of demarcation from the white living flesh around. We saw that when the doctor applied his fingers there was a separation, all around, of the dead tumour from the healthy flesh, so that we could see down to the depth of an inch or more, in which there was no union of part with part, except

that of a few mucous threads, which he divided with scissors. The woman declared that the pain of the process was not worth speaking of.

"These things we saw, but for others we were dependent on testimony only; as for instance, the painlessness of the treatment, in which, to judge from what my beloved Emily subsequently underwent, as well as others who were treated coetaneously with her, I believe we were greatly deceived. We asked concerning the probabilities of the cure being a complete one. Dr. F— assured us that he, and the few co-possessors of the secret in the United States, had found that, out of every 100 cases treated, not more than twenty instances occurred of a return or reappearance of the disease; whereas, in ordinary surgical practice, as many as 80 per cent. is about the average of recurrence.

"On the 12th of May, my dearest wife was placed under the care of Dr. F—. He conceived hopes that the tumour might be dispersed or absorbed without extraction; and at all events recommended that this alternative should be tried for some time. He distinctly assured us, over and over, that even should this hope be disappointed, the tumour would not be in a condition appreciably less favorable for the extractive treatment, after the lapse of a few months, than at that time; and he entertained confidence that the case was one which he should be able to bring to a happy issue.

"He commenced by applying two or three kinds of ointment to the breast, using them alternately on successive days; and this mode of treatment was continued until the end of August. It involved the necessity of my beloved wife's going from Islington to Pimlico three times a week—a wearisome task, but which opened up to her, what she greatly loved and valued, opportunities of serving her Lord in testimony, both by distribution of gospel tracts, and by conversation with strangers.

"One of the unguents employed was attended with pain, presently causing a gnawing or aching in the breast, which at times was scarcely supportable. No marked change occurred in the appearance or feeling of the tumour throughout the summer. It certainly had not extended, and we fancied its volume was slightly diminished. It was not the seat of any pain, except what was produced by the application."

Then follows an account of an autumn holiday at Tenby. Mr. Gosse says:—

"Our sojourn at Tenby continued from the 29th of August to the 2d of October. During the first three weeks my Emily was ill with general weakness and headache; and afterwards the use of the ointments furnished by Dr. F— produced such intense aching and 'drawing' pain in the tumour, that altogether it was a time of much suffering.

"We returned home on the 2d of October, and immediately saw Dr. F—, who advised the removal of the tumour. The lack of any apparent result from the five months' attempt to disperse it, had led us to look to such a course as the most hopeful. On the 10th, therefore, my beloved, accompanied by our little boy, her faithful companion and assiduous nurse throughout her trial, removed to a lodging in Pimlico, uncomfortable in many respects, but presenting the advantage of being next door to Dr. F—'s own residence. The next morning, October 11th, the process of extraction commenced.

"The whole surface of the left breast, an area of four inches in diameter, was wetted with nitric acid, applied by means of a small bit of sponge tied to the end of a stick. The object of this application was to remove the skin. The smart was very trying, and continued for several hours augmenting; the effect being to blister and destroy the whole skin, exactly as if a severe burn had taken place.

"On the succeeding day, the doctor proceeded to incise the tumour, in order that it might be penetrated by the peculiar medicament which he used for its separation. With the scalpel he drew, on the surface of the now exposed flesh, a series of parallel scratches, about half an inch apart, reaching from the top to the bottom. When these were made, a plaister of a purple mucilaginous substance was spread over the whole. The next day, on renewing this plaister, the scalpel was passed again along the scratches, deepening them a very little; and a fresh plaister was applied. By the daily repetition of this operation, the scratches were in a few days deepened into long parallel cuts or scores, into which narrow strips of linen rag, covered with the purple mucilage, were pressed, instead of the common plaister. Every day these strips of rag were renewed, and the scores were made deeper and deeper.

"The effect of this application was very distressing. In about an hour after its renewal every morning, the breast began to be the seat of an aching, piercing pain, under which my beloved sufferer was fain to wander up and down her narrow room, leaning now and then her head upon the mantel-piece or against the wall, unable from the agony to lie, sit, or stand. For several hours this continued, after which the intensity of the anguish commonly abated. Abatement of suffering, however, was the most she could look for; *suffering never ceased from the beginning of the operation, till her spirit was freed from the worn-out body.*

"Her sleep was greatly disturbed by the pain. In health she had been accustomed to sleep well, and had been generally able to forget herself in a few moments after lying down, whether by day or night. But from the commencement of the extraction to her departure, it was a rare thing with her to be unconscious more than half an hour at a time, and a large portion of every night was passed in the wakefulness of pain. From the first she was unable to lie down, so that the repose she took was in a semi-recumbent position, propped up by pillows. The progress of the operation was attended by considerable aching and loss of muscular power in the left arm, which prevented her from reclining at all on that side: hence she was reduced to use the half-sitting posture, varied occasionally by a very slight leaning over to the right side.

"The only sleep she obtained, for the most part of the time she was at Pimlico, was induced by opiates. We were very reluctant to use them, but Dr. F— urged them upon my beloved as absolutely necessary, and the experience, that sleep was out of the question naturally, induced her to yield. She took the preparation known as Battley's Sedative, commencing with twelve drops, but at length taking twenty to twenty-five drops nightly.

"The scoring of the tumour was not attended with any pain. The purple mucilaginous substance had evidently a caustic power, killing the flesh so far as it penetrated. It had, too, an antiseptic property; for the part so destroyed had no tendency to decomposition; it was brought

to a woody hardness, and a deep-black colour, without the least odour. It was one merciful mitigation of her sufferings, that, all the time she was under Dr. F—, not the slightest offensive odour was perceptible from the disease.

"When the incisions had reached the depth of about an inch and a quarter, the operator announced that he had reached the bottom of the cancer. He now scored no more, but applied a 'girdle,' or annular plaster, around the line where the killed tumour adjoined the living flesh; a line which was marked with perfect definiteness. The object was now to promote a suppuration, whereby the tumour should be gradually detached from the flesh, and sloughed off, like a stone dropped out of a basin. It was nearly four weeks after the removal of the skin that the 'girdle' was first put on, and two weeks more before the tumour came away. A furrow, gradually deepening, formed between the living flesh and the hard and black tumour, and this was filled with pus. The sensation now became that of a heavy weight dragging at the breast, and this feeling increased as the connexion between the parts daily diminished. At length, on Sunday, the 23d of November, to our delight, the great insensible tumour fell out of its cavity, hanging only by a slender fleshy thread, which presently yielded, and the breast was relieved of its load—the dead body that it had so long carried about.

"There it lay on the table, a hard and solid block of black substance, resembling in size and shape a penny bun, deeply scored on one surface, and on the other nearly smooth. And then on the breast of my beloved sufferer was the corresponding cavity, raw and partly lined with pus, but presenting an apparently healthy appearance.

"This was the point to which our hopes had been directed for six weeks past—hopes not unmingled with fears, however; for we had ascertained that, not unfrequently, after the main tumour had come away, as in this instance, a piece of the diseased flesh was left—a sort of offshoot of the tumour, in the bottom of the cavity, imbedded in the flesh. In such case, there was no alternative but to treat this piece with the purple mucilage, like the original tumour. . . .

"The cup was soon dashed from our lips; for the doctor presently announced that there was a large piece on the outer edge of the cavity, which, though he could not say it was actually cancerous, he deemed it prudent to take away. The whole painful process had now to be gone over again, with the exception of the application of nitric acid. . . .

"Nearly four weeks more of the grinding, wearing agony were now to be borne; by which time the continued pain, the sleepless nights, and the violence done to the whole system by the destruction of so large a portion of the tissues, had accomplished a work but too perceptible. Her strength was greatly reduced; to the last she crawled in every morning from her lodgings to Dr. F—'s (now removed to Warwick Square) and back, a distance of about a quarter of a mile, but it was a slow process, not performed without assistance, and it left her much exhausted; yet she always enjoyed the fresh air and the effort."

After describing the patients who "crowded the waiting-room," and speaking of some of them who "passed before her into the presence of their Lord, *going thence only to die*," the narrative proceeds:

"On the 17th of December, the second portion of the tumour which

had been treated since the 23d of November, a mass about as large as a hen's egg, from the outer side of the breast, detached itself; and again hope was raised. This hope was not, however, unmixed; for both on the inner and on the outer side of the wound, on the surface that had hitherto appeared sound, indications had begun to manifest themselves that gave us anxiety. Pimples were forming, especially under the arm; and though Dr. F— had hitherto treated them lightly, we did not feel able to rely on his opinion with the same buoyant confidence as at first. As before, he waited a few days before he would give any information as to the course he would follow, now that this epoch was reached.

"At length, on Monday, the 22d, he said, after examining the wound, 'Mrs. Gosse, I'm very sorry for this. I shall have to take out another piece under the arm.' Her heart sank at this announcement, but she replied, 'And what then, Doctor?' 'Then I must treat this other part on the inner side of the breast.' 'But how do you account for this spreading of the disease beyond the part you have all along been dealing with?' 'Oh, 'tis in your blood.'

"She said no more, but calmly took her leave; and in the afternoon, when I returned to her from my daily work, she told me of the result. Worn down as she was, she felt that she could not undergo the pain of a third, and then a fourth process, the unintermitted agony of which she had sufficiently proved; especially as there seemed no reasonable hope that the merely local mode of treatment hitherto pursued would, if continued, overtake a disease which had already spread so far beyond the area originally attacked. *We had, moreover, been all along assured that cancer was a local, and not a constitutional disease; and therefore the announcement that it was seated in the blood, while indeed we had good reason to believe it true, took us by surprise, as contrary to the statements we had all along relied on.* The question, too, was obvious, 'What is the use of a merely local treatment of a disease which is seated in the blood?'"

The "personal kindness and attention" of Dr. Fell are spoken of "most gratefully;" but Mr. Gosse then gave up the treatment, and his wife was removed home. He adds that about the middle of January—

"The cancer began rapidly to assume a very virulent appearance; the cavity produced by the extraction of the tumours was somewhat diminished in area, and skinned over, except in the centre, where there was a mass of raw fungoid flesh, on which a fetid pus copiously formed. The pimples around increased in number, and some of them were attended with smarting, stinging pain. A large area on all sides of the wound became swollen, livid, and quite hard to the touch. There was no shooting or lancinating pain in any part, but a burning heat in the rough pimply surface beneath the armpit, with aching in the shoulder and arm, reaching down to the hand. This arm, the left, was now become useless. These local sufferings were accompanied by shifting rheumatoid pains in the body, alternations of burning feverishness and sudden chills, paroxysms of coughing, and great debility."

And so on, with slight variations, till her death on the 7th of February.

"I feel certain," says Mr. Wells, and who will not agree with him? "that any surgeon who reads this harrowing narrative of useless torture, and compares the history of this painful case with others in which

he has removed large cancerous growths in a few seconds, without pain to the patient, under the anæsthetic influence of chloroform, and has seen the clean cut wound he has made unite in a few days, will be shocked by the contrast."

The account of Vriès, the "docteur noir," and the Rev. Hugh Reed, the Curate of St. Sepulchre's, is full of interest. Our French neighbours are a little more discriminating than ourselves. Vriès, it is true, was taken by the hand by no less a man than M. Velpeau, and had the same chance given to him in La Charité which was given to Fell in our own Middlesex Hospital; but before long we find him turned out of the wards with indignity, and sentenced, as an impostor, by the Tribunal of Correctional Police, to fifteen months' imprisonment and a fine of 500 francs. The last remedy of Vriès appears to have been an inert vegetable powder, mixed with nitre or alum, in the form of pills, together with powder of arrowroot, sugar, and camphor. A remedy used previously in an unsuccessful attempt to pass himself off upon the inhabitants of London, as proved by Mr. Weedon Cooke, was a cataplasm, containing aloes and iodine. The Rev. Hugh Reed, notwithstanding the halo of respectability thrown over him as a clergyman of the Church of England, and the prominence given to his claims by a leader in the *Times*, is evidently a member of the same family as Pattison, Fell, and Vriès, in that he uses a secret remedy, and demands extortionate fees. Chlorine gas externally and free dosing with mercury appears to be the treatment for which the patients of the clerical pretender are doomed to be at once fleeced in pocket and damaged in health; for dangerous salivation has already resulted in more than one instance.

All these matters, and much more, are presented in a very readable and agreeable form in the pamphlet before us—a pamphlet which we heartily commend to the favorable notice of our readers.

The Diseases of the Ear, their Nature, Diagnosis, and Treatment. By JOSEPH TOYNBEE, F.R.S. (8vo, London, Churchill, 1860.)

In this work we have a very masterly summary of the leading facts in the pathology and treatment of diseases of the ear, arranged in a singularly lucid and intelligible manner.

Mr. Toynbee commences by giving some directions as to the mode of investigating the diseases of the ear, and we cite the following instance, somewhat condensed, as an excellent example of the way in which a case of deafness should be examined.

F. R—, æt. 43, architect.—Health tolerable, but subject to attacks of sore throat. A brother and sister were both deaf when young; but quite recovered before reaching the age of twenty.

History.—When a boy, suffered from earache, which was often followed by deafness and by discharge from both ears. Subsequently the attacks of earache ceased, but he has ever since been subject to fits of deafness, which have usually come on during an attack of cold. Each attack has usually disappeared with the occurrence of a sudden crack in the ear. The present one came on six months ago. He

requires to be spoken to in a loud voice within a yard, and there is a constant singing, with a sensation of pressure, in them. Right meatus contained cerumen in a normal quantity and consistence. Right membrana tympani.—Outer surface glassy, the bright spot more elongated than natural, and somewhat striated; the membrane of a leaden hue, and much more concave than natural. Eustachian tube.—No air is heard to enter, either during the act of swallowing or during a forced expiration with closed mouth and nose; nor is the membrana tympani seen to move during these operations. Hearing distance for a watch (ordinarily heard at three feet), contact. Left ear in nearly the same condition as right. The mucous membrane of the fauces is red and spongy, and much thicker than natural, and each tonsil is somewhat enlarged.

Diagnosis.—Occlusion of the faucial orifice of each Eustachian tube by thickened mucous membrane. The grounds for forming this diagnosis are—

First. The history of the case, the constitution of the patient, and especially the sudden attacks of deafness after a cold and their sudden disappearance after a crack, the latter being caused by the sudden entrance of the air into the tympanic cavity, and the return of the membrana tympani to its natural position.

Secondly. The concave condition of the membrana tympani, which showed there was very little air in the tympanic cavity, while there was no history of other disease to cause the concavity. The reason for assuming that the obstruction was at the faucial and not at the tympanic orifice was the fact that the membrana tympani was translucent in one case and only slightly opaque in the other, whereas an amount of inflammation sufficient to cause obstruction at the tympanic orifice of the tube would necessarily be attended by considerable thickening of the mucous membrane lining the inner surface of the membrana tympani, and produce great opacity.

Thirdly. The condition of the mucous membrane of the fauces, and the result of the exploration of the tube by the otoscope.

Treatment.—The object is to reduce the mucous membrane crossing the orifices of the tube to a natural condition, so that the muscles may be enabled to open them. For this purpose the solid nitrate of silver was applied to the mucous membrane of the fauces twice a week, and an astringent gargle was also used. Small doses of quinine and colocynt were administered each night. The surface of the body was directed to be rubbed daily with a towel dipped in cold water, and abundant exercise on foot was recommended.

In a week or two perfect restoration of hearing took place in the right ear, and nearly perfect in the left.

The first seven chapters are occupied with a consideration of the diseases to which the external meatus is liable, as foreign bodies and accumulations of cerumen in the meatus, acute and chronic inflammation, polypus and tumours in the meatus. Foreign bodies (a singular catalogue is given) may generally be removed by injection of warm water or by the rectangular forceps, not forgetting the important caution to ascertain their presence before attempting their removal. Some singular cases are given where an accumulation of cerumen

pressing on the membrana tympani, and so, indirectly through the chain of bones on the internal ear, produced pulsation in the ear, giddiness, confusion in the head, inability to walk straight, and other symptoms of cerebral irritation; these cases were promptly cured by simply syringing out the ears with warm water.

Acute inflammation, ending in resolution, discharge of serum, mucus or pus, or in ulceration, is treated by the application, in the milder cases, of evaporating lotions, or of hot fomentations and poultices; in the more severe, by the application of leeches to the margin of the orifice of the meatus, so as to remove the blood directly from the congested vessels, and by syringing the meatus itself with hot water. The patient, moreover, must be kept in bed, perfectly free from all noise, and small doses of opium may have to be administered.

When such cases are neglected, the inflammation may readily extend to the brain.

Mr. Toynbee divides aural polypi into—1. The raspberry cellular polypus. 2. The fibro-gelatinous polypus. 3. The globular cellular polypus.

For the removal of the first he recommends the *potassa cum calce* to be applied with great care, or their entire removal by the lever-ring forceps. The second also require removal, whilst the third can be discussed by strong, astringent lotions of acetate of lead, zinc, alum, or tannin. Chapters 8 to 14 inclusive are engaged with the consideration of the membrana tympani, Eustachian tube, cavity of the tympanum, and mastoid cells. In Chapter 8 is an elaborate anatomical description of the membrana tympani, including a structure hitherto unnoticed—"the tensor ligament of the membrana tympani."

Speaking of perforation of the membrana tympani, after alluding to the plan of Todd and Yearsley for its cure, Mr. Toynbee, says, "It appeared to me that an artificial membrana tympani could be constructed, which might confine the vibrations to the tympanic cavity and concentrate them upon the labyrinth. Having found improvement to follow the use of a syringe and tepid water, I examined the ear after this operation was finished, and found a bubble of water had filled up the orifice of the membrana tympani. On destroying the bubble, the improvement in the hearing at once disappeared; hence I arrived at the conviction that the bubble of water acted beneficially, by temporarily reconfining the various undulations to the tympanum, a conviction which subsequent observations have strengthened."

A small portion of vulcanized india rubber was found the best material of which to construct an artificial membrana tympani, and many cases are given of its signal success in cases of perforation.

In reference to acute inflammation of the mucous membrane of the tympanum, after commenting upon the almost necessary implication of the periosteum, the author says, "The exciting cause is usually exposure to a draught of cold air, or sudden change of temperature. In its milder form this affection is met with in children, and known as earache; for although the paroxysms are often very severe, the symptoms are generally confined to the ear, and do not produce much

constitutional disturbance. In children, it is evident that the mucous membrane is more affected than the periosteum."

These attacks, if neglected, "probably lay the foundation of deafness in after life, by causing a permanent thickening and rigidity of the membrane. The pain is chiefly felt at night, when the recumbent position and the heat of the pillow favour the congestion of the membrane. Although the child may not complain of pain in the daytime, and when seen by the surgeon may even be cheerful; still, should any appearance of congestion remain, or, tested by the watch, any dulness of hearing, it is important to apply one or two leeches below the ear, and to keep a slight discharge behind it.

"In the adult this affection is usually of a much more formidable nature, and it sometimes has a rheumatic or gouty character. The first symptom is a sense of uneasiness in the ear, soon amounting to continuous pain, extending over the mastoid process, down the neck, and into the fauces. The power of hearing rapidly diminishes, and a variety of the most horrible sounds are experienced, sometimes described as like the hissing and puffing of a steam-engine, varied by others like a series of explosions in the ear or the ringing of bells.

"A symptom of this affection which adds greatly to the suffering of the patient, is the impairment of the functions of the brain, sometimes amounting only to a confusion of ideas, or depression of the nervous system; in other cases, delirium supervenes, and in the most formidable cases death takes place from the inflammation extending to the membranes of the brain." "On examining the ear with the speculum and lamp, there is no appearance of inflammation in the dermoid meatus or the membrana tympani. The modes in which this affection terminates are, the formation of lymph, the effusion of serum in the tympanic cavity, which escapes through the Eustachian tube into the fauces, or a copious secretion of pus or mucus, which distends the tympanum, causes ulceration and perforation of all the laminae of the membrana tympani, and ends in abundant discharge. The treatment of the affection consists in the local abstraction of blood by leeches or cupping. Vapour baths should frequently be applied to the ear, so as to allow the steam to penetrate as far as the membrana tympani. The throat should be repeatedly gargled with hot water. The patient is to be kept perfectly quiet; the use of mercury will be found very efficacious, especially when combined with full doses of opium or morphia. In the early stages of the affection, tartar emetic proves advantageous. As soon as the discharge appears, the meatus should be gently syringed with a copious supply of warm water thrice daily."

The fourteenth chapter, which is of considerable length, is devoted to diseases of the mastoid cells. The diseases which occur in childhood are first described—the sequelæ of scarlet fever, measles, smallpox, and scrofulous affections, and it is particularly pointed out that the mucous membrane in the first three of these is in a state of chronic catarrh, hypertrophied, and with mucus collected in the cells.

Every one must recollect the admirable cases given by Dr. Watson of otitis followed by purulent deposits in the joints, and how he laments that the direct link of connection in these instances between

the disease of the ear and the disorganization of the joint was not demonstrated. Mr. Toynbee supplies the link by detailing a case examined by himself, in which, after death, were found, "pus in the mastoid cells; caries of the lateral sulcus; pus in the lateral sinus; and secondary deposits in various parts." He further lays it down as a general rule that, "when disease, beginning in the mastoid cells, after the second or third year of life, injures the brain, the cerebellum is the part affected, for it is clear that the part principally involved lies posterior to the small bones, and that it is in reality included in the mastoid cells."

The last sections embrace nervous deafness, or, in other words, disease of the nervous apparatus of the ear, malignant diseases, and deaf mutism.

Operative Surgery adapted to the Living and Dead Subject.

By C. F. MAUNDER, F.R.C.S. (12mo, London, Churchill, 1860.)

This, which is the first instalment of Mr. Maunder's work, includes bandaging, strapping &c.; ligature of the various arteries; operations upon the bones; and some of the minor operations of surgery, as issue, seton, vaccination, &c. The descriptions are for the most part clear, though perhaps somewhat brief. As an example, we quote his description of the ligature of the femoral at the apex of Scarpa's triangle:—"The patient, being recumbent, with the leg partially flexed upon the thigh, and the thigh slightly abducted and rotated outwards, the position of the internal saphena vein should be ascertained by making pressure upon it near its junction with the femoral vein, so as to check the flow of blood through and cause it to swell; the position also of the Sartorius muscle, especially the inner margin of the upper portion which borders the artery and crosses the thigh from above inwards and downwards, should be ascertained by causing the subject, if living, to bring the muscle into action.

"The part having been shaved, if necessary, and the course of the artery known by its pulsation if the subject be alive, and by the surface line indicated above, an incision commenced at a distance of four fingers' breadth below Poupart's ligament should divide the integuments only, parallel to the artery, to the extent of three inches, leaving the saphena vein on its inner side. Any lymphatic glands intervening should be held aside or removed, while the deep fascia is divided on a director. Seek now the inner margin of the Sartorius muscle, the fibres of which run downwards and inwards, and along this border, or just under cover of it, the artery will be seated.

"The sheath of the vessel having been opened as directed, the aneurism-needle must be passed with the utmost care around the artery from within outwards, the point of the needle being kept closely applied to the artery, lest the vein, which in this locality is particularly near the artery and generally behind it, should be wounded." We recommend those who would learn to perform the ordinary operations of surgery to study Mr. Maunder's work with the subject before them.

On the Diseases, Injuries, and Malformations of the Rectum and Anus, with Remarks on Habitual Constipation. By T. J. ASHTON, Esq., Surgeon to the Blenheim Dispensary. , (3d Edition, 8vo, London, Churchill, 1860.)

The chief differences which are observable between this and the two former editions are in the introduction of capital woodcuts, to illustrate some of the more common forms of disease, and in the citation of numerous fresh cases as examples of the diseases treated of in the different chapters. We are not surprised to find that the merits of Mr. Ashton's book have been recognised by an early call for another edition.

The Pathology and Treatment of Stricture of the Urethra; its Complications and Effects. By ROBERT WADE, F.R.C.S., &c., &c. (4th Edition, London, Churchill, 1860.)

The fourth edition of Mr. Wade's treatise on stricture of the urethra and its complications is much more complete and comprehensive than his previous editions; in many respects, indeed, it may be regarded as a new work. It is undoubtedly a very valuable and highly practical contribution to urethral surgery—a branch of the healing art to which, as is well known, the author's attention has for many years been more especially devoted.

The chapter which relates to the use of potassa fusa will probably be read with the greatest interest, from the author's well-known advocacy of its employment in some of the worst forms of stricture.

We think that Mr. Wade's views regarding the use of the caustic potash in stricture have been frequently misunderstood. It will be seen from his remarks on the subject that he restricts his recommendation of the employment of the remedy to the more intractable cases of the disease, and then only as an aid to dilatation.

The author observes: "The cases in which I have found the potassa fusa advantageous may be generally described, as—first, strictures having a cartilaginous hardness and being impervious to instruments; secondly, strictures of long standing, which, although admitting the passage of a small bougie, bleed more or less freely on its introduction; thirdly, irritable strictures, and such as have a marked disposition to spasm."

The whole of Mr. Wade's remarks on the employment of the caustic potash in stricture deserve an attentive perusal, for they are the result of a long and careful study of the effects of that remedy.

In alluding to the *modus operandi* of the nitrate of silver and that of the caustic potash, the author remarks: "I cannot let this opportunity pass without again calling attention to the fact, that the effects of the argentum nitratum and of the potassa fusa, admit of no comparison, as they are totally dissimilar; that the former, when freely used, from its tendency to cause adhesive inflammation, has often been found to increase the urethral obstruction, whilst the remarkably solvent powers of the latter have no such tendency."

"The effects of the alkaline caustic are, indeed, so strikingly superior to those of the nitrate of silver, that the preference which has so generally been given to the latter is not easily to be explained. We rarely, if ever, hear of the employment of the caustic alkali in urethral stricture by the French surgeons; and in England, the knowledge of its value as a therapeutic agent in that disease is but very limited."

And again: "My only preference for the treatment by potassa fusa of the more intractable forms of stricture, is simply that I have found it generally to answer my purpose in effecting their satisfactory dilatation, besides being so entirely free from injurious effects as never, in a single instance, to have caused the least anxiety for the safety of a patient. With my knowledge of the efficiency of the potassa fusa in some of the worst forms of stricture, I could not conscientiously resort to perineal section until the potash had failed, after a proper trial, unless the case was one in which the caustic was evidently inadmissible."

"It is the great advantage of combining safety with efficiency possessed by the potassa fusa in many of the more intractable forms of strictured urethra which has induced me, from time to time during many years, so perseveringly to solicit the attention of the profession to the singular efficacy of that remedy in a disease which very often bids defiance to the ordinary methods of treatment. Well knowing that nothing is so injurious to any remedial measure as the recommendation of its indiscriminate employment, I have always taken especial care to point out the particular cases in which the potassa fusa had, in my hands, proved advantageous."

On the Diseases and Injuries of the Joints. By THOMAS BRYANT, Esq., F.R.C.S., Assistant-Surgeon to Guy's Hospital, &c. (London, Churchill, 12mo, 1860.)

Mr. Bryant's little work commences with a description of the ordinary forms of inflammation of the synovial membrane and of the pathology and treatment of these affections. A case is given which is considered to set at rest, by means of pathology, the contested point of the continuation of the synovial membrane over the articular extremities of bones. "In a case which recently came under my notice of a boy, æt. 9, dying from disease of the lung, associated with some disease of the tarsal joints, the ankle, which had evidently but recently become inflamed, presented a synovial membrane which was most exquisitely injected, films of recent but firm fibrinous material were poured out over the surfaces of the cartilage, and beneath this were fine, radiating, capillary vessels proceeding from the margin in one spot. I carefully raised the deposit of lymph, leaving the injection as clear as ever; and it became evident that these capillaries were not, therefore, on the new-formed membrane, but existed either in the cartilage or upon a membrane covering it. But this was not all. Anxious to make a microscopical examination of the part, I made a thin section through the cartilage and its vascular covering; the

swollen synovial membrane became distinctly visible, covering the cartilage which had undergone the granular form of degeneration, and with care the membrane was separated from its cartilage by means of needles."

The author next discusses the diseases of cartilage and articular extremities of bone; the former he includes under the following heads: 1, hypertrophy; 2, atrophy; 3, granular degeneration, or ulceration of cartilage; 4, fatty degeneration; 5, fibrous degeneration.

A short chapter is devoted to the subject of amputation or excision in cases of diseased joints. He says: "If the diseased joint should be the shoulder or elbow, and if there is a chance of removing the disease, and thus of preserving the extremity and hand, there is no doubt amongst surgeons that the operation of excision should be performed. It is generally successful, and although many months may perhaps pass away before the true benefit of the operation has been proved, the importance of the hand is such that time becomes of little account in the case where subsequently it may be saved."

"With the lower extremities a different condition naturally exists; they are simply pillars of support and are purely mechanical powers of progression; the risks that are worth running to preserve an upper extremity become thus comparatively less justifiable when run to preserve a lower, exactly in the same proportion as the arm or hand is of greater value than the leg."

As a rule, the author considers that the hip-joint should not be excised, because the disease generally attacks both articular cartilages, and in this instance the pelvis can be but little interfered with and can certainly not be removed; one portion therefore, of the joint, viz., the head of the femur, can only be removed. Nevertheless we have only seen Mr. Hancock remove very freely, and we believe with success, the pelvic portion of the cartilage in a case of excision of hip-joint in a child. The second part of Mr. Bryant's book is occupied with the consideration of the injuries of joints. These he treats of sensibly enough, not by a full description of the various dislocations, &c., but by giving a series of cases, in each of which a different mode of reduction or of treatment was attempted. Mr. Bryant has shown much diligence in the accumulation and much care in the selection of the cases he gives.

III

REPORT ON MATERIA MEDICA.

Strychnine and Nicotine as mutually antidotal. By the Rev. SAMUEL HAUGHTON. ('Proceedings of the Royal Irish Academy,' November 29th, 1859.)

BELIEVING that strychnia and nicotine might be mutually antidotal, the author was led to make the following experiments :

First experiment.—Nicotine.

A bath, consisting of five ounces of water, holding dissolved five grains of nicotine, of 1012 specific gravity, was prepared, and in this mixture a frog was immersed ; in fifty-five seconds the animal became narcotized, and apparently incapable of motion ; but on being excited it was evident that life was not extinct, and the pulsation of the heart did not cease until twenty-three minutes after immersion. The anterior extremities became paralysed first, accompanied with a quivering of the fore legs, and then the hind legs were drawn up so as to reduce the animal to the smallest possible compass. At the time of death the belly and hind legs became suffused with a pink tint, which was rapidly diffused, commencing at the thighs. After death the mouth remained closed, and the eye continued very brilliant and life-like.

Second experiment.—Nicotine.

A solution of nicotine was formed, consisting of five grains of nicotine to twenty ounces of water ; and a frog immersed as before, leaving his head above the water ; in three minutes and a half he became quite paralysed as before, placing the fore legs upon his back, with the palms upwards. Death finally ensued in forty-three minutes, with the same appearances as those described in the first experiment.

Third experiment.—Strychnine.

In this experiment five grains of pure strychnine were dissolved in a minimum of muriatic acid, and five ounces of water added. A frog was placed in the bath thus formed, with the following results : Tetanic convulsions set in immediately upon his touching the liquid, and continued while life remained ; there was no sign of opisthotonos,

but strongly marked emprosthotonos. The animal was quite dead in four minutes; mouth open, and eye closed and death-like; the whole body stretched out and bent forwards, the back being highly arched.

Fourth experiment.—Strychnine.

A bath was made of five grains of strychnine and twenty ounces of water, and a frog placed in the solution, as before. The animal became speedily convulsed, and exhibited the same symptoms as in the former case; but in this case death did not finally take place until after an interval of fifty-five minutes. The mouth was open, the eye closed and dead, and the body arched and bent forwards, as before.

Fifth experiment.—Nicotine and Strychnine.

In this experiment two baths were prepared, one of five grains of strychnine to five ounces of water, and the other of five grains of nicotine to five ounces of water, and the two solutions carefully mixed together. A frog was now introduced, and remained apparently without inconvenience for nineteen minutes, when the strychnine began to operate, and the first tetanic convulsion appeared; the usual appearance of strychnine poisoning continued, but with less violence than in the former experiments; after forty-seven minutes the animal was removed from the bath, and washed with cold water; he lived afterwards for upwards of twenty-four hours, exhibiting at intervals tetanic convulsions.

Sixth experiment.—Nicotine and Strychnine.

Another frog was placed in a mixed bath of nicotine and strychnine, of the same strength as that last described, and removed after an interval of ten minutes. After removal, in thirty-two minutes the first symptom of emprosthotonos appeared, and the convulsions continued for many hours; but the animal ultimately recovered completely, and is still in the enjoyment of health and life, after a lapse of many days.

The last two experiments appeared to Mr. Haughton conclusive as to the action of nicotine in retarding, and, in certain cases, completely counteracting the effects of strychnine. In the fifth experiment, a frog had lived for forty-seven minutes in a mixture of two solutions, of which one would have destroyed life in four minutes; the other would have produced paralysis in one minute, and destroyed life in twenty-three minutes; and yet in the mixture, the animal had lived for forty-seven minutes, and afterwards for twenty-four hours.

In the sixth experiment, the frog immersed in a similar mixture of the poisons for ten minutes had ultimately recovered; the effect of the strychnine being completely obviated by the action of the nicotine.

Mr. Haughton also relates some experiments upon warm-blooded animals, which are not very conclusive; and, what is more to the purpose, he quotes Dr. O'Reilly's case (*v.* 'Abstract,' XXIX, p. 352), in which tetanus from strychnia was successfully treated by the bold administration of tobacco.

On the Physiological Properties of the Xyloids. By (1) Dr. J. BAKER EDWARDS; and (2) M. VULPIAN. (1. 'The Liverpool Medico-Chirurgical Journal,' January, 1859. 2. 'Rév. Thérap. du Midi,' June 30, 1860.)

1. These "substitution compounds," containing nitrous acid, derived chiefly from the starch series, possess considerable interest from their physical properties. They are formed from these neutral, non-azotized vegetable compounds by the action of nitric acid, which removes more or less of hydrogen, and supplies NO , (nitrous acid) to the same extent, thus making up the original type. The first of these, formed from starch, $\text{C } 24, \text{H } 20, \text{O } 20$, takes up one equivalent of NO in place of hydrogen and the xyloidine thus produced is the type of the series, and consists of $\text{C } 24, \text{H } 19, (\text{NO}), \text{O } 20$. By the same action upon lignine or cotton, we obtain two compounds, both "gun-cottons," viz.— $\text{C } 24, \text{H } 17, (3\text{NO}), \text{O } 20$, and $\text{C } 24, \text{H } 15, (5\text{NO}), \text{O } 20$, the first being soluble in alcohol and ether, forming collodion; the latter, very slightly soluble in the same mixture, and forming the most violently explosive gun-cotton. From sugar we obtain a resinoid substance, containing $\text{C } 24, \text{H } 25, (3\text{NO}), \text{O } 28$, of a bitter taste, and highly explosive character. From glycerine we obtain an oily fluid, insoluble in water, soluble in alcohol and ether, having a sp. gr. of 1.5. It contains $\text{C } 6, \text{H } 6, (2\text{NO}), \text{O } 6$. Again, from benzene (a pure hydro-carbon), $\text{C } 12, \text{H } 6$, we obtain by a similar process, nitro-benzene, containing $\text{C } 12, \text{H } 5, (\text{NO}),$ a remarkable aromatic oil, closely resembling oil of bitter almonds, and used extensively in perfumery as a substitute for this scent. With these several substances Dr. Edwards largely experimented upon animals, with a view of ascertaining the physiological effect of the group. The result is, that all appear to possess more or less the peculiar action upon the nervous system characteristic of strychnine, and Dr. Edwards believes that further experiments upon man, would prove that they possess peculiar and valuable medicinal properties. Physically they are allied, being all highly explosive bodies, deflagrating at a low temperature, or by concussion; and physiologically they all produce a powerful effect upon the heart's action, trismus, and a series of tetanic convulsions, terminating in death.

"I have," says Dr. Edwards, "a few remarks to make upon each of which these substances, I thus distinguish:

- | | | |
|--------------------------------|-------|---|
| 1. Xyloidine | . . . | $\text{C } 24, \text{H } 19 (\text{NO}), \text{O } 20.$ |
| 2. Pyroxiline | . . . | $\left\{ \begin{array}{l} a \text{C } 24, \text{H } 17 (3\text{NO}), \text{O } 20. \\ b \text{C } 24, \text{H } 15 (5\text{NO}), \text{O } 20. \end{array} \right.$ |
| 3. Saccharoine | . . . | $\text{C } 24, \text{H } 25 (3\text{NO}), \text{O } 28.$ |
| 4. Glonoine or Nitro-glycerine | | $\text{C } 6, \text{H } 6 (2\text{NO}), \text{O } 6.$ |
| 5. Benzoine or Nitro-benzene | | $\text{C } 12, \text{H } 5 (\text{NO}).$ |

With respect to the first two compounds, although in more than one instance slight convulsions followed the administration, yet the general symptoms were very marked. Probably owing to their insolubility in watery fluids, they are not taken up to any extent by

the stomach when exhibited in a dry state. The etherial and alcoholic solutions are also unfavorable for the development of their properties, inasmuch as these fluids appear to act specifically as antidotes even to the more active of these substances, and therefore when administered with them veil their action to a great extent.

A quantity considerably under a grain of saccharoine was given to a mouse, and the effect in this instance may serve as a general type of the results of other experiments upon the whole of this class of bodies.

In five minutes the mouse appeared wild and uneasy, ran quickly about under the large bell jar in which it was confined, and seemed anxious to escape; the fur became raised; in ten minutes it began to scratch its jaw, as if uneasy about the mouth, the teeth chattered involuntarily, and once or twice the jaw was held firmly for a moment, either when shut or open. The animal started violently at a sudden noise, and in twenty minutes it began to fall forward when advancing, and soon after showed symptoms of partial paralysis, as its head was stiffly held in one position with a side twist, and when attempting to advance it made a circular motion on the twisted side; in half an hour it began to have recurring spasms, which threw it on its side, the feet and fore paws being held firmly contracted. On recovering, it appeared easy, and breathed freely, but was stupified and very reluctant to move. After a few moments another spasm seized it as before, and held it for about one minute in a paroxysm. These were repeated until the animal died from exhaustion.

The most powerful of these substances is No. 4, nitro-glycerine, and this has two distinct physiological actions, which are modified by the dose and the duration of its action. At first the animal is excited and lively, the pupils of the eye are dilated, the heart's action accelerated and irregular, the breathing rapid and laboured, the animal staggers in walking, and appears intoxicated. This effect goes off in about half an hour, when it eats and appears to recover. If the dose has been small, no further symptoms are observed; but when (in the case of a full-grown rabbit) the dose has been about twenty drops, or when four drops were injected into the jugular vein, the first symptoms having passed off, in the course of two hours a chain of nervous symptoms sets in, resembling in a remarkable degree that produced by strychnine, every distinct stage being greatly prolonged, and after chattering and fixing of the jaw, and tetanic convulsions affecting violently the whole frame, the animal at last becomes exhausted and stupified; the pupils contract, the breathing becomes laboured, and gradually the heart ceases to beat. The convulsions last from one to four hours, and sometimes the animal dies during a paroxysm.

The powerful action of minute doses of glonoine upon the human system has been experienced and repeatedly witnessed by Dr. Edwards, and being disposed to conclude that the physiological action of minute doses is of a different kind to that of larger doses, and that in the latter case we by no means obtain the primary effect in an exalted degree, but a new kind of action altogether. The last-named substance, nitro-benzene, produced death in a mouse in a dose

of four drops, the symptoms being less marked than in the other cases, and death resulted from a single convulsion. This substance, however, did not produce death in a rabbit in a dose of thirty drops; it is therefore less energetic than glonoine.

"It will be observed that these symptoms, produced by glonoine especially, closely resemble the effects of strychnine, but the action is more steady and accompanied with less distressing fear and trembling, and in addition there is a narcotic action."

2. The experiments of M. Vulpian furnish results of a very different character to those arrived at by Dr. Edwards—results which go to show that glonoine does not produce any of the effects of strychnine, and is not poisonous ordinarily, even when given in moderately large doses. A young rabbit, that had been sick for some days, and very much emaciated, was made to swallow from eighty to ninety centigrammes of pure glonoine. Two and a half hours after, there was no perceptible effect; but it died in eighteen hours, without exhibiting any convulsion, at least during the last hours. In other experiments no effect at all was produced. Thus a young dog, of large size, swallowed the same dose (eighty to ninety centigrammes) of pure glonoine, without any sickness. The same dog, some days after, swallowed, without any inconvenience, four grammes of pure glonoine, and, after an interval of a few days, took four grammes more, two of which were dissolved in alcohol, and yet there were no morbid phenomena.

Looking, on the one hand, at the almost negative results of experiments on animals with large doses of glonoine; and, on the other, at the report of the English physicians, claiming that phenomena, very manifest and sometimes very serious, have been produced in man after the ingestion of a drop of a solution containing one per cent. of this substance, it is proper to ask whether the same substance has been employed in the different experiments, or if errors have not occurred in the consideration of the results obtained. In the presence of such contradictions, we can only remain in doubt, until new and more complete experiments shall allow us to decide on what side rests truth.

On the Administration of Belladonna, and the causes which modify its action. By Dr. FULLER, Physician to St. George's Hospital. ('Proceedings of the Royal Medical and Chirurgical Society,' 28th June, 1859.)

The author was led to the inquiries which form the subject of this paper by observing the remarkable tolerance of belladonna exhibited by a child, a patient in St. George's Hospital, to whom he was administering it as a remedy for chorea. Fancying that the tolerance of the drug observed in the case in question might be attributable either to imperfection of the extract or to the modifying influence of the choreic spasms, he obtained other extracts of belladonna from Apothecaries' Hall, from Squire's, and from Jacob Bell's, in Oxford Street, and administered it, dissolved in water, to ten other choreic patients in the hospital. In a twelfth case he administered atropine, obtained

from Morson's, in Southampton Row. The result was in all cases the same, namely, extraordinary tolerance of the remedy, with a varying but not very satisfactory effect as regards the subjugation of the choreic spasm, the tolerance of the drug being so great that one girl, aged ten, took seventy grains of the extract of belladonna daily, and a total amount of 1019 grains, or rather more than two ounces, in twenty-six days; whilst the child, aged fourteen, to whom the atropine was administered, took no less than thirty-eight grains in eighteen days.

1. The patients were all pale whilst taking the larger doses of the drug, and in no instance was there any feverish heat or any rash or erythematous blush on the skin.

2. There was great weakness of the pulse in all the cases, and in some considerable quickness.

3. The urine was generally clear and acid, but scanty and of high specific gravity, varying from 1024 to 1036. In three cases it frequently contained a copious deposit of crystallized lithic acid, and in three other cases it was usually loaded with lithates. In one case, for the space of a few hours, whilst the patient was under the toxic influence of the drug, it became ammoniacal almost as soon as voided.

4. In one case some difficulty was experienced in voiding the urine, but this was not observed in any other case. This difficulty passed off when the belladonna was omitted.

5. The tongue was always moist, but unusually red, whilst the larger doses of belladonna were being taken, and the redness passed off when the drug was omitted.

6. The remedy did not, in any instance, exert a constipating effect; on the contrary, it appeared to prove aperient. An occasional purge was required only in three cases.

7. In five cases it ultimately gave rise to sickness and diarrhoea; but in every instance, save one, the choreic spasms had almost wholly ceased, and, in the exceptional case alluded to, had greatly subsided before those symptoms were produced. Whenever bowel symptoms occurred, mere omission of the medicine sufficed to cause their cessation. Did the existence of spasm counteract the influence of the drug, and prevent their occurrence?

8. Dilatation of the pupils was very uncertain. In almost every instance the pupils were large before the administration of the medicine was commenced, and they invariably became dilated soon after a dose of the medicine was taken. The dilatation, however, was not to the degree observed when a solution of belladonna is dropped into the eye, and, in most of the cases, it passed off before another dose of the medicine was due. Its ordinary duration was about two hours and a half. In one case excessive dilatation occurred for a few hours coincidently with the occurrence of sickness and purging. In two cases considerable dilatation was pretty constant; in one case it was seldom great.

9. In two instances only did the slightest indistinctness of vision occur. In one of these it was observed only on three occasions, and then only to a slight degree, and was not accompanied by dryness of

the throat, headache, or any impairment of the mental faculties; in the other it took place more frequently, and, strange to say, was most complained of when the pupils were of their natural size, and were contracting freely under the stimulus of light. It was not attended by delirium, nor by any indication of the action of belladonna, and the administration of an additional quantity of the drug was almost invariably followed by its removal.

10. The drug did not, in any case, produce the slightest narcotic effect; and, in one case, it failed utterly as an anodyne.

11. In no instance was there any evidence of its accumulation in the system.

12. The tolerance of the drug was not in proportion to the severity of the choreic spasm. In Case 2, in which fourteen grains of the extract, daily, occasioned sickness and purging, the spasms were more severe than in Case 11, in which seventy grains were taken daily without disturbance of the stomach and bowels.

13. The curative effect of the drug was very uncertain. In seven cases its action appeared to be decidedly curative, but in two cases it failed to exercise the slightest control over the spasms; and in the other three cases, it is doubtful whether the improvement ought to be attributed to its action.

Being desirous of ascertaining whether the tolerance of the drug was due to its decomposition in the stomach, or to its non-absorption, the author submitted to Dr. Marcet and Mr. Kesteven for examination some of the urine voided by a patient in Rosebery ward, who at the time was taking sixty-four grains of the extract of belladonna daily. The former extracted atropine enough from three ounces of the urine to kill two white mice and narcotize several others. The latter, from two ounces of the urine, obtained sufficient to produce dilatation of a cat's eye, to afford some beautiful filamentous crystals of atropine, and to give the reactions which atropine yields with iodine water, tannic acid, chloride of gold and sulphuric acid, and bichromate of potash. The fæces also, on being analysed by Dr. Marcet, yielded abundance of atropine.

Thus, then, up to this point, five facts appear proved:

1st. That in cases of chorea extraordinarily large doses of belladonna and atropine are tolerated.

2d. That the drug is absorbed into the blood, and therefore that the tolerance of it is not attributable to its non-absorption, nor to its being decomposed in the stomach.

3d. That it does not accumulate in the blood, but passes out of the system with the urine and fæces, and probably with the other excretions.

4th. That it does not exercise that amount of control over the choreic spasms which would have been expected from the readiness with which it is tolerated by the system.

5th. That the tolerance of the remedy is not in proportion to the severity of the choreic symptoms.

The question, therefore, arises as to whether the existence of chorea had any part in producing tolerance of the drug, or whether that tolerance may not have been due to some other circumstances?

With the view of determining this point, the author administered the extract of belladonna to two convalescent children, whom he kept in the hospital for the purpose. To the one, aged seven, he ultimately gave thirteen grains of the extract daily, and to the other, aged ten, twenty-eight grains daily, without producing dryness of the tongue or fauces, or any symptom indicative of the action of belladonna beyond some temporary dilatation of the pupils.

With the view of having the matter tested with children on a larger scale than is possible at St. George's Hospital, the author requested a friend, who is attached to a large public institution for children, to administer it cautiously in gradually increasing doses. Accordingly, to eleven children, varying in age from three to six, one eighth of a grain of the extract in solution was administered three times a day, and the dose was increased in the course of six days to half a grain thrice daily. To four other children, from eight to twelve years of age, a quarter of a grain of the extract was given, and the dose was increased in the course of six days up to one grain three times daily. These children were all in good health; the dose was gradually increased, and dilatation of the pupil was the only effect produced. To seven other children, between five and seven years of age, he began by giving one third of a grain twice a day, and continued it for three days without perceiving any effect from its administration beyond slight dilatation of the pupil. He then prescribed two thirds of a grain twice a day; but, by mistake, one grain and a third was given at a dose. The result of this large and sudden increase was, that the children were all seized with sickness and vomiting; some of them had diarrhoea, and one of them had the violent uncontrollable delirium characteristic of belladonna. Stimulants were at once administered, the belladonna was omitted, and on the following day the toxic effects of the drug had passed off, and the children were perfectly well.

To adults the author administered the drug in pills and in solution, and he found that, however given, very small doses usually produce dryness of the tongue and fauces; that two grains daily will often excite vertigo and dizziness, and that it is not possible to establish a tolerance of the larger doses as in children.

Dr. Fuller is thus led to the conclusion that—

1st. The tolerance of belladonna is not attributable to the counter-acting influence of choreic spasms, but is in some way connected with the age of the patient.

2dly. That a much larger dose than is usually prescribed is well borne from the first by children of tender years.

3dly. That in children, though not in adults, a tolerance of the remedy is speedily established, so that the dose may be safely increased, rapidly, but gradually.

4thly. That special care should be taken in apportioning the dose to the age of the patient, and in not increasing the dose too rapidly, inasmuch as the usual toxic effects of the drug will be produced if too large a dose be given before a sufficient tolerance of the drug has been established.

5thly. That the milder toxic effects produced by the drug are of

little importance, and subside without remedies as soon as the administration of the medicine is discontinued.

6thly. That adults cannot tolerate the doses of the drug which can be taken with impunity by children.

The extraordinary difference in the tolerance of the drug observed at different periods of life, the author remarks, may be explicable by the medicine passing off with the urine, as also, probably, with the other excretions, more rapidly in childhood than in adult life; and he concludes his paper by the following suggestions:

1st. That inasmuch as belladonna is admitted to be productive of signal benefit in whooping-cough, even in the minute doses in which it has been hitherto administered, it is probable that a corresponding increase of benefit would result from the larger doses, which it is now proved may be safely prescribed under certain restrictions.

2dly. That it deserves a trial in epilepsy, laryngismus stridulus, and other spasmodic affections.

3dly. That combining as it does antispasmodic, sedative, and slightly purgative properties, it may be productive of relief in certain cases of dyspepsia connected with infra-mammary pain, flatus, and spasms in the abdomen.

4thly. That inasmuch as it exercises a remarkable power in controlling spermatorrhœa and incontinence of urine, and the experiments recorded in this paper prove that it is excreted with the urine, it is highly probable that its curative action in such cases may be due in great measure to its topical effects, and if so, that it might be applied locally with advantage.

On the Medical Administration of Ozonized Oil. By Dr. THEOPHILUS THOMPSON, Physician to the Hospital for Consumption at Brompton, &c. ('Proceedings of the Royal Medical and Chirurgical Society,' 28th June, 1859.)

The author, after some general remarks on the properties of ozone, describes the results obtained from its administration in association with oils, the oils being ozonized by exposure for a considerable time to the direct rays of the sun, after previous saturation with oxygen gas, according to the process adopted by Mr. Dugald Campbell. The cases of fourteen consumptive patients to whom the ozonized oils were given are detailed, and the principal facts noted are also appended in a tabular form. The conclusion to which these experiments point is, that the administration of ozonized oils has a remarkable tendency to reduce the frequency of the pulse. Of the fourteen patients whose cases are detailed in this communication, there are only two in whom no such effect was observed; and although in a few instances the effect may have seemed insignificant or transient, in the larger proportion it was very considerable, and must be attributed to the ozone rather than to the oil, since it was repeatedly manifested in patients who had taken cod-liver and other oils without any reduction, or even with an acceleration, of the pulse; and further, the effect on the pulse was nearly as distinct when the ozone was associated with the oil of

the cocoa-nut, or of the sunflower, as with that of the cod-liver. This circumstance is the more significant, since the administration of sunflower-oil without ozone has not appeared to the author to manifest any important remedial power. The reduction of pulse was usually observed in two or three days, and often continued progressive. A reduction of twenty beats was observed in certain cases to occur respectively in two, three, four, and six days; in other instances a reduction was noted of twenty-four pulsations in fourteen days, thirty-four in thirteen, thirty-six in twenty-two, forty in eleven. In one patient the pulse fell as low as 60, probably considerably below the natural standard; but in most of the favorable instances the reduction stopped when that standard was obtained.

The apparent effect of the remedy is one which, prior to experiment, the author would not have anticipated. No other obvious result was noticed, excepting a general improvement in the patient's condition. In some of the patients the use of simple and of ozonized oils was alternated. In one case the alternation was made three times, and the result was in each interchange of treatment so direct and remarkable as to make that particular example equivalent in force to three experiments.

In addition to patients under his own observation, the author refers to four instances noted by Dr. Scott Alison, who obligingly pursued the investigation during Dr. Thompson's absence from the hospital. In these four cases the disease was in the third stage. In two, a remarkable reduction in the rapidity of the pulse, amounting to about twenty beats, occurred under the use of the ozonized oil, while the improvement induced could not be referred to any other cause. Dr. Alison remarks, "I attach some value to this observation; for I prescribed the oil totally divested of all prejudice in its favour, and I have always been reluctant on imperfect grounds to refer results to the operation of medicines. If ozonized oil can reduce the rapidity of the circulation—a feature of great prominence in phthisis—this remedy possesses a most valuable property, rendered still more valuable by its contributing at the same time to improve the general health."

The author mentions having used ozonized oil of turpentine with marked and prompt advantage in some cases of hæmoptysis, but has not sufficiently repeated the experiment to feel entitled to express an opinion as to its remedial superiority over ordinary turpentine. He adds that, should more extended observation establish for ozonized oil the property indicated by these experiments, it will prove a valuable addition to our list of remedies, especially in consumption (which is a disease peculiarly characterised by hurried action); but not, perhaps, exclusively in this disorder, since there are other morbid conditions in the treatment of which it is very important to lower the pulse without reducing constitutional strength.

On the use of Saccharated Lime in Medicine. By Dr. JOHN CLELAND, Demonstrator of Anatomy in the University of Edinburgh. ('Edinburgh Medical Journal,' August, 1859.)

"The great solubility of lime in water, in the presence of sugar," writes Dr. Cleland, "first came under my attention in Paris, four winters ago, in the laboratory of M. Würtz, in the Ecole de Médecine, where solution of saccharated lime is used in determining the amount of nitrogen in organic substances, by the sulphuric-acid method. It then occurred to me that this solution would be a useful agent in medicine; for it was evident that, while the lime-water in use was far too weak a preparation to develop to advantage the therapeutic properties of lime, its utility was such as to render it highly probable that a sufficiently strong solution would be at once valuable as a tonic and antacid.

"Sugar combines in two or more proportions with lime, and on this subject I shall quote from M. Regnault ('Cours élémentaire de Chimie,' vol. iv, p. 138). 'Two combinations may be obtained of cane-sugar with lime. The first is produced by pouring a solution of sugar on an excess of slaked lime, when a combination is formed very soluble while cold, and which is separated by filtration. If the fluid be heated to ebullition, the greater part of the combination is precipitated, for it presents the remarkable property of being much less soluble when heated than in the cold. It may even be washed with boiling water and then redissolved in cold. This saccharate of lime, dried at 212°, has the formula $3\text{CaO} \cdot 2(\text{C}_6\text{H}_{12}\text{O}_6)$. If, on the contrary, hydrated lime be added in small quantities to a concentrated solution of cane-sugar, until the last added portion refuses to dissolve, and alcohol be then poured into the liquor at 180° Fahr., a saccharate of lime is precipitated which has the formula $\text{CaO} \cdot \text{C}_6\text{H}_{12}\text{O}_6$. The solutions of saccharate of lime have a strongly alkaline reaction; they attract carbonic acid rapidly from the air, and crystals of carbonate of lime, exactly similar to native crystals of that substance, are deposited on the walls of vessels containing them. Solutions of cane-sugar can, besides, dissolve very various quantities of lime, according to their concentration and temperature. On ebullition, they deposit strongly basic saccharates, which contain from three to four equivalents of base.'

"For therapeutic purposes the first-described compound is best suited, for it is the most soluble, and obviously it is advantageous to have as small a proportion of sugar as possible. Instead of pouring the sugar in the form of syrup upon the lime, I find it more convenient to mix the slaked lime and the sugar, and then add the water. The following is a very good formula: Slake 8 ounces of quick lime, rub up with it 5 ounces of white sugar; add 1 pint of water; stir for some time, till the hard, stiff masses which the sugar and lime are liable to run into are as much as possible dissolved; then filter. The product should be perfectly clear, and of only a slightly yellowish tint. A solution made in this way will contain 18 grains of lime in every ounce by weight, and altogether about 108 grains of solid

matter to the ounce. Taken undiluted, a few drops are sufficient to roughen the tongue. When diluted, the taste is at first an acrid one of lime; but this is immediately replaced by a sweet taste in the back of the mouth, admitted to be pleasant. Made as just recommended, the solution is not liable to decomposition unless it is exposed to the air. By employing a smaller proportion of water to lime, a still stronger solution may be obtained, but not with any practical advantage, as there is increased difficulty of filtration and greater tendency to decomposition. The strongest solutions are scarcely, if at all, affected by boiling; but if diluted, a copious precipitation takes place on application of heat. This, however, will not serve as a test of strength, as addition of sugar in any quantity will make any solution, of whatever strength, remain clear on ebullition.

"My first trials of the medicinal effects of saccharated lime were made in the winter 1856-7, with solutions made by myself and by Mr. Stewart, druggist, Inverleith Row. After I had quite satisfied myself of its value, in spring 1858, I gave directions for making it to Messrs. Duncan, Flockart, and Co., and recommended it to the attention of various members of the medical profession in Edinburgh.

"I shall not enter largely into the therapeutic effects of this preparation, but only give a cursory indication of them, basing as I do my title to speak on the subject simply on my being the first to introduce it as a remedy. It is of course a powerful antacid, and probably the best we have, since it is stronger and pleasanter than magnesia, and does not weaken the digestion like the alkalies. Far from doing so, its most important use is as a tonic of the alimentary system in cases of obstinate dyspepsia. As such, its action is much more powerful than that of the vegetable stomachic tonics. It is suitable for cases with too little as well as for those with too great secretion of gastric juice, no doubt because the former state of matters is obviously a result of atony, which the lime removes. It seems particularly serviceable in gouty constitutions. In the dyspepsia of hysterical and anæmic cases it does not seem to be of great use. Care should be taken to tell the patient not to take it before breakfast, as it sometimes causes a degree of nausea in the morning, when the stomach is empty. It suits very well to take it after meals; its alkalinity does not at all interfere with digestion. Practitioners seem generally to take up the prejudice beforehand, that saccharated lime must be liable to produce constipation, probably judging so from the action of chalk; but I wish particularly to insist that it has not, in the slightest degree, any tendency to occasion such an effect. On the contrary, it is a very valuable means of overcoming gradually that chronic constipation which is so frequent an accompaniment of dyspepsia; and persons who have for years been in the constant habit of using aperient medicines have been able to abandon them in great measure after taking this remedy for some time. In a single instance it acted as a purgative, so that its use could not be continued. It will be found serviceable in checking the diarrhœa of disordered digestion, acting as lime water does, only that the latter is so dilute that it is often impossible to administer it to adults in the quantity desirable. Patients who take saccharated lime habitually get to like the taste, and seem to

think it exhilarating. It may be found useful also in allaying the cravings of the intemperate. I have no doubt that, if it be fairly tried, practitioners will find it an exceedingly useful remedy. It may be given in doses of from 20 or 30 to 60 minims or more, in a glass of water, two or three times a day."

On the Mutual Antagonism of Opium and Belladonna. By Mr. JAMES SEATON, of Leeds. ('Medical Times and Gazette,' December 3d, 1859.)

The remarkable tolerance of opium in these cases would appear to bear out the conclusions arrived at by Mr. Bell and others, that the action of belladonna and opium is mutually antagonistic. In none of the cases in which delirium was present were the symptoms alleviated until sleep was obtained; after sleep the patient was comparatively well. Until sleep was procured, the pupils, also, were widely dilated. In the fatal case the pupils were widely dilated at the moment of death—a fact which would tend to show that the treatment by opium had nothing to do in bringing about the fatal result.

In September, 1858, two young men, having gathered about a pint of the ripe fruit of the *atropa belladonna*, which they found growing in an old quarry a few miles from Leeds, on their arrival home they distributed them among their friends, believing them to be innocuous. The cases which follow were the result of their imprudence. The berries appeared to be ripe, were in size a little less than a small cherry, and were described to have a mawkish, sweet taste.

J. W—, æt. 23.—On September 12th, 1858, at a quarter past seven p.m. took ten berries; at eight p.m. complained of dryness of throat, and great difficulty in swallowing, followed by indistinctness of vision and pain in the head and eyeballs, which felt as if starting from their sockets. These symptoms were followed by delirium, characterised by intense wakefulness and vivacity, and a want of coherency in his ideas and speech.

At half-past ten p.m. took an emetic, which induced free vomiting, notwithstanding which the symptoms persisted. At two a.m. on the 13th, was ordered a dose of castor-oil, and *Tinctura Opii*, ℥vii, every four hours. At five a.m. slept for a short time, but on awaking was still delirious; took the medicine every two hours up till two p.m., when he fell asleep and awoke two hours afterwards quite collected. The indistinctness of vision in this, as in other cases, continued several days. The pupils, which, before sleep, were widely dilated, on sleep being obtained became contracted to the ordinary size.

J. R—, æt. 23.—At seven p.m. on September 12th, took five berries; at eight had dry throat and tongue, great lassitude, and inability to walk. At ten p.m. vomited freely from the action of an emetic. I saw him at 11 a.m. on the 13th, when he still complained of pain in the head and eyeballs, giddiness, and dimness of sight. The pupils were dilated, but there was no delirium. Took no medicine.

W. R—, æt. 25.—At seven p.m. on September 12th, took eight berries; at eight o'clock had dryness of throat and tongue, with the

other symptoms above described. At eleven p.m. took an emetic, and vomited. He passed a sleepless night, and continued more or less delirious up till five p.m. on the 13th, when he was seen for the first time by my assistant, who ordered *Tinctura Opii*, ℥x, every two hours. After the third dose he fell asleep, and on awaking in the morning felt much better, and was quite collected.

H. W—, æt. 22.—At seven p.m. took eighteen berries; at a quarter past eight the symptoms became developed; at nine p.m. took an emetic, which induced free vomiting. This patient suffered very little, and took no medicine.

J. E—, æt. 7 years.—At half-past seven p.m., on September 12th, took six berries; at nine had dryness of the throat, followed by the other symptoms. At two a.m. on the 13th vomited spontaneously. Was first seen at eleven a.m. on the same day, when he was intensely delirious and wakeful, being continually busy with some imaginary occupation. Was ordered *Tinctura Opii*, ℥viii, every hour. The medicine was continued the whole day, but the delirium continued unabated. At twelve p.m. the dose was doubled, in the form of morphia, and two and a half hours afterwards he fell asleep, and continued so till seven a.m. on the 14th, when he had an evacuation per rectum, and again slept for two or three hours, after which he awoke quite sane. The pupils, which had been widely dilated, became contracted when sleep was obtained.

C. C—, æt. 14.—At eight p.m., on September 12th, took two berries; at nine the symptoms of poisoning supervened; passed a sleepless night, and did not vomit; was seen at seven a.m. on the 13th, when he was ordered a dose of castor oil, and *Tinct. Opii*, ℥viij, every two hours. As the delirium continued unabated at eleven a.m., was ordered *Tinct. Opii*, ℥xvj, every hour, and the medicine was thus given up till seven p.m., when he fell asleep, and continued so, with slight intermissions, till five on the following morning, when he awoke, all his more serious symptoms having disappeared. The same condition of pupil was observed in this as in the other cases.

E. W—, æt. 46.—At seven p.m., on September 12th, took twelve berries; at eight the symptoms commenced; at half-past ten became delirious, and continued so till half-past four a.m. On the 13th, when I was sent for, she was ordered a dose of castor oil, and, immediately on taking it, vomited freely for the first time. She was also ordered *Tinct. Opii*, ℥viij, every two hours. As the delirium continued undiminished, at nine a.m. the dose of opium was doubled, in the form of morphia, and given every hour. The medicine was thus continued, and the symptoms persisted without any material alleviation, till ten p.m., when she fell asleep, and awoke in the morning quite collected.

T. W—, æt. 8.—At seven p.m., on September 12th, took five berries, and had similar symptoms. At seven a.m., on the 13th, was ordered *Tinct. Opii*, ℥vj, to be taken every two hours; at eleven the dose was doubled, and ordered every hour. He continued sleepless and delirious up to twelve p.m., when he fell asleep, and awoke in the morning quite collected.

J. W—, æt. 12.—On September 12th, at seven p.m., took two berries,

but did not vomit; during the night was sleepless, delirious, and had all the other symptoms of poisoning. At five a.m., on the 13th, had a dose of castor oil, and was ordered Tinct. Opii, ℥vj, to be taken every two hours. At eleven a.m. the dose of opium was doubled, in the form of morphia, and given every hour. The delirium continued intense during the whole day and following night, although the dose of opium was gradually increased, and it was not till half-past seven p.m., on the 14th, that sleep was obtained. He then slept during the whole night, and when he awoke had all his more serious symptoms relieved. This patient was thus wide awake and excessively active for forty-eight hours after taking the berries, and, before he slept, had taken equivalent to twenty-four grains of opium.

S. W—, æt. 14.—About seven p.m., on September 12th took, berries, but the exact number is unknown. Had the same symptoms as already described. At three a.m. on the 13th she vomited. At seven a.m. was ordered castor oil, and Tinct. Opii, ℥viij, to be taken every two hours. At eleven a.m. the dose was increased to ℥xij, every hour up till four o'clock, after which she took no more medicine. From four till seven p.m. she continued delirious, but having intervals of complete unconsciousness; after seven she fell into a state of total insensibility; at ten she was incapable of being roused, and at twelve p.m. died in a comatose condition. The pupils, at the moment of death, were so widely dilated as to render the iris scarcely visible.

Post-mortem, thirty-seven hours after death.—The external appearance of the body was that of a subject of scrofula. The limbs attenuated, and considerable swelling of the face from carious bone. The superficial vessels of the brain were slightly congested. A section of the organ showed the vascular points to be scarcely, if it all, more developed than natural. The ventricles were empty, the substance firm, and the arachnoid perfectly glistening and transparent. Both lungs were entirely adherent to the walls of the chest, the result of old pleurisy. Structure of the heart pale and flabby; valves healthy, and the cavities filled with fluid blood. The blood in the large vessels was very dark-coloured, and flowed out like water on their being divided.

The stomach was partially distended with gas, and contained about an ounce and a half of yellowish fluid, and a small piece of undigested apple. The mucous membrane was somewhat paler than natural, except two or three small spots of very slight congestion, situated near the pyloric orifice. No appearance of inflammation was observable. The mucous membrane of the intestines was also perfectly healthy. A number of seeds were found scattered over the surface of the duodenum and jejunum, and near the middle of the latter a whole berry was seen. The contents of the bowels were of a black colour, owing to the patient having been taking iron medicinally up to the period of her death.

It would appear, from the above cases, that the violence of the symptoms did not correspond with the number of the berries taken, as J. W—, who had only two, was very alarmingly ill; while H. W—, who had eighteen, escaped with scarcely any bad effects. The reason probably is that, while in the one case the berries were completely absorbed, in the other they were vomited before sufficient time had elapsed for their digestion. The first symptom appears to have been dryness of the

mouth and throat; next, indistinctness of vision and dilated pupil; and, afterwards, in the more severe cases, delirium supervened. I found in one man, who had only swallowed one berry, the dry mouth and fauces without any affection of vision. The indistinctness of vision was the most persistent symptom; in all the cases it existed to a greater or less degree for several days, and the boy C. C.—'s vision continues defective up to the present time. The delirium was of a busy, restless, vivid character, but generally rather pleasing than otherwise. The patients appeared to think that they were pursuing their ordinary occupation; one boy appeared eager in flying a kite: another pulled tables and chairs about, thinking he was working in a coal-pit; while the woman, E. W.—, appeared to be remarkably busy with her ordinary household duties. All their movements were of a quick, excited character, strikingly resembling delirium tremens. There was no very marked vascular excitement, the skin was, in most of the cases, moderately cool, and the pulse rapid, but without power.

On Sanguinaria Canadensis. By Dr. GIBB. ('Dublin Med. Press,' February 15, 1860.)

In this paper, which was read before the Medical Society of London, Dr. Gibb enters at length into the history of this plant, from the time when it was first noticed by Jacob Cornuti, in 1635.

Sanguinaria Canadensis is a perennial papaveraceous plant, indigenous in North America, and cultivated in England prior to 1640. The rhizome is the officinal part. When dried, the colour of this part is somewhat narcotic, and provocative of sneezing. The quantitative analysis, as determined by the author and other observers, is as follows:—1, sanguinarina; 2, porphyroxin; 3, puccine; 4, chelidonic acid; 5, fecula; 6, saccharine matter; 7, vegetable albumen; 8, orange-coloured resin; 9, fixed oil; 10, extractive matter; 11, lignin; 12, gum (a little). The sanguinarina is an alkaloid, discovered by Dr. Dana, and contains the active principle of the plant. The porphyroxin was extracted from it by Riegel, and is analogous to the same principle discovered by Merck in opium. Puccine is a third principle, discovered by Mr. Wayne, of Cincinnati; and this name was given to it by the author, after the Indian appellation of the plant. Several of the other ingredients were detected by the author himself.

A series of experiments were performed on plants and animals by the author, and Dr. Fenwick, of Montreal. They went to show that, in its concentrated form, bloodroot was extremely irritating to man and animals, affecting principally the mucous membrane of the stomach and bowels. An excessive quantity acts as a poison, and produces violent vomiting, a burning sensation in the stomach, tormenting thirst, faintness, vertigo, indistinct vision, and alarming prostration of strength. Its properties, in regulated doses, are those of an emetic—nauseant, expectorant, and diaphoretic. A narcotic, sedative, stimulant, and alterative property is occasionally exerted. As an emmenagogue, it has long been known; it is also used as an escharotic and errhine. As an emetic and expectorant, it is highly

valuable in various chest and throat affections, in pneumonia, phthisis, bronchitis, catarrh, asthma, croup, diphtheria, cynanche maligna, and pertussis. As a diaphoretic, stimulant, and alterative, it is administered in many diseases in which sudorifics are indicated. In scarlatina, rheumatism, jaundice, dyspepsia, hydrothorax, and some other affections, its virtues have been praised by many practitioners. The general experience of those who have tried it in cancer is, that it is perfectly inert in that disease; and, contrary to the statement of Dr. Fell, it is satisfactorily proved that it was not originally employed by the Indians of the shores of Lake Superior to cure cancerous affections. Its value, locally, in many skin affections, is undoubted, and it is certain to cure many obstinate forms of head eruption.

Several American physicians have given their testimony to its value in some of the stages of pneumonia, and especially in the chronic form. As an expectorant in the first and second stages of phthisis, its action is said to be certain. The author found it especially serviceable in the pretubercular, the second and the third stages of the disease, and not less valuable in bronchitis. Short abstracts of several cases of phthisis in different stages are related, to illustrate the good effects of the remedy; cases in all of which the expectoration became easy, the breathing clearer, the spasmodic efforts at coughing less, and even in the last stage much improvement resulted for a time. As an expectorant and mild stimulant in the second and third stages, it cannot be surpassed, and materially helps to prolong life, even in very hopeless cases. In consumption, associated with disease of the windpipe and throat, the tincture is useful in promoting warmth and easy expectoration. In chronic bronchitis, it is in most general use in North America, as one of the most active and useful expectorants: and the author has for several years found it more serviceable in this disease than many other remedies. It will allay the cough and irritation in some forms of follicular inflammation of the throat, associated with phthisis or bronchitis. Not less serviceable is it in various forms of catarrh, particularly in the chronic, associated with emphysema. In coryza, or cold in the head, it is much employed, and has been found useful by the author. The paroxysms of asthma are relieved by it, and their severity and frequency diminished. It is a remedy in constant use for pertussis in the United States; but, although it had cured cases under the author's care, he did not recommend it as superior to other remedies. It is also much employed in croup, in the membranous form. As an emetic in the croupal form of diphtheria, it acts with energy, and produces a thrilling effect upon the entire mucous membrane of the fauces and respiratory tract, with a feeling of warmth. It alone seems to impart vitality to the suffering throat, and is recommended by the author with confidence, in the form of decoction or infusion, four to eight drachms at short intervals, until vomiting ensues; it is then to be followed by steel and other preparations recommended for this disease. In the malignant form of diphtheria, besides active and energetic treatment, an acetous decoction of bloodroot as a gargle will prove valuable. Its usefulness in epidemic malignant scarlatina has been fully tested by Dr. Jennings, of Virginia, in the same form of gargle; a fact which should be borne in mind

when this epidemic appears. Some evidence was also afforded of its good effects in certain forms of chronic rheumatism, and in some hepatic affections. In amenorrhœa, it will prove, either alone or combined with other substances, one of the best emmenagogues. The skin diseases which have been cured by it in the form of ointment are—scabies, tinea capitis, impetigo of the scalp, and many others. The preparations in use are—the powder; the compound powder of the author; the powder with camphor; the infusion, decoction, preserved juice, and oil; the extract, tincture, wine, vinegar, syrup, and ointment.

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